



Digitized by the Internet Archive
in 2017 with funding from
CLIR

<https://archive.org/details/fieldnotesv151700pear>

Pearson, O. P.
July 1947 - May 1950

1- Sweetwater Mts. (1st. trip)

July 20 - July 29, 1947

Catalogue nos 1001-1060

Journal

2- Miscellaneous catalogue

August 1947 - May 1948

Catalogue nos 1061-1132

3- Sweetwater Mts. (2d. trip)

June 1948

Catalogue nos. 1128-1148

Journal

4- Local and Miscellaneous

July - August 1948

Catalogue nos. 1149-1185

Journal

5- Santa Cruz Island

August - September 1948

Catalogue nos. 1186-1301

Journal

Species Accounts

Mammals

Pearson, O. P.
July 1947 - August 1949

6- Miscellaneous and local, including:
Marin, Lake, Mono, Madera, Shasta,
Tuolumne, Siskiyou, Colusa, Napa,
Contra Costa and Alameda counties.

September 1948 - August 1949
Catalogue nos. 1302-1619
Journal

7- Humboldt county
August 1949

Catalogue nos. 1620 - 1791

Journal

Species Accounts

Birds

Mammals

8- Miscellaneous and local including
Marin, Lake, Monterey, Napa,
Shasta, Alameda and Solano counties.

September 1949 - May 1950
Catalogue nos. 1792-1995
Journal

1.
Pearson, O. P.

Sweetwater Mts. (1st trip)

July 20 - July 29, 1947

CATALOGUE NOS. 1001 - 1060

JOURNAL

CATALOGUE

1947

Catalogue

Swagger Canyon, 8200 ft., Sweetwater Mtns., Mono Co.,California.July 20, 1947

1001 ♀ Sorex palustris ^{navigator} 144 x 78 x 19 x 5 10.7 g. caught 6-9 p.m. in live trap. Died over night. Hide not prime over back and patch on top of head.

1002 ♀ Sorex vagrans ^{amoenus} 113 x 50 x 13 x 7 4.8 g. Dead in live trap along stream overnight. near 1001. No emb. Hide prime.

1003 ♂ " " 110 x 43 x 12 x 6 8.9 g. along stream overnight. Testes 6 mm. Hide prime. Lateral scent glands red, large, no ventral glands visible.

1004 ♀ Eutamias ^{amoenus} 177 x 57 (bolled) x 30 x 17 46.1 g. shot by Benson July 20 above Jarvis meadows. No emb. Hide not prime on top of head.

1005 ♀ " " 198 x 82 x 30 x 17 53.1 g. 4 pr. prominent nipples. Much mammary tissue. 3 placental scars in one horn, 1 in other. shot in afternoon 4 ft up in mahogany tree.

JULY 22, SWAGER

1006 ♂ Sorex vagrans ^{amoenus} 103 x 42 x 13 x 6.5 4.6 g. overnight along stream in snap trap. Walnut bait. Testes 1 mm. Hide prime. No scent glands seen.

1007 ♂ Sorex " " (95) (44) x 11 x 7 3.8 g. Back & tail broken. Testes 1 mm. No scent glands seen.

1008 ♂ Sorex palustris ^{navigator} 152 x 78 x 20 x 5 12.2 g. overnight along stream in snap trap. Tip of tail white. Testes 1 mm. Hide not prime over hips. No scent glands seen.

1009 ♂ " " 150 x 79 x 20 x 12.3 g. Tail eaten by leeches. Testes 1 mm. Hide not prime over back and hips.

1010 ♀ " " 153 x 73 x 20 x 4.5 16.0 g. overnight along stream. Much mammary tissue. Uteri fairly stout. Placental scars.

1011 ♀ " " 150 x 75 x 19 x 5 12.2 g. U.G. small.

1012 ♀ " " 151 x 75 x 18 x 5 10.5 g. no emb.

1013 ♀ Eutamias ^{amoenus} 205 x 91 x 30 x 18 46.3 g. shot 2:30 p.m. among mountain mahogany. Sings alarm call combining a bubbling and a trill sound.

1014 ♀ Eutamias speciosus 217 x 77 x 32 x 18 60.2 g. shot 2:30 p.m. 5 ft. up in mahogany tree. No embryos.

1015 ♂ Eutamias amoenus 146 x 79 x 30 x 16 43.5 g. shot 2:30 p.m. among mahogany, testes 4 mm.

1016 Toad In snap trap along stream overnight.

1947

Catalogue

Sagehen Canyon, 8200 ft., Sweetwater Mtns., Mono Co.,CaliforniaJuly 23, 1947

- 1017 ♂ Zapus princeps 225 x 136 x 32 x 15 33.6 g. Testes 6 mm, greatly vascular. Hides prime. Skins soaked in gasoline.
- 1018 ♂ Sorex palustris ^{navigator} 159 x 79 x 21 x 6 17.0 g. overnight. Tail almost naked, Testes 6.5 mm, Cowper glands 6 mm. Hides prime.
- 1019 ♂ Sagurus ^{curtatus curtatus} 115 x 26 x 17 x 9 17.5 g. In tall bunch grass on hillside. Testes 9 mm. Hides not prime on head and rump.
- 1020 ♂ Eutamias amoenus 197 x 81 x 30 x 16 47.3 g. shot in meadow. Tree among sage, deer brush, and pine. Testes 5 mm.
- 1021 ♀ " " 192 x 85 x 30 x 16 36.2 g. Trapped in Artemisia above camp. U.G. small.
- 1022 ♀ Myotis volans interior 94 x 42 x 8 x 14 6.6 g. shot. no embryos
- 1023 ♀ Eutamias amoenus 181 x 80 x 29 x 15 28.0 g. Trapped in Artemisia. Probably same species as many others discarded as juv. U.G. slender.

July 24, 1947

- 1024 Toad Caught in snap traps by stream overnight.
- 1025 ♂ Sorex vagrans amoenus 94 x 40 x 12 x 6 4.2 g. Testes small.
- 1026 ♀ " " 99 x 40 x 12 x 6 4.1 g. no emb.
- 1027 ♀ Sorex palustris ^{navigator} 162 x 81 x 20 x 6 15.2 g. Vagina and uterus very stout but not pregnant. Not prime on snout and mid back.
- 1028 { Erethizon dorsatum epixanthum 100 x 175 x 80 x 33 14 lbs. shot by Benson in fir. Uteri stout, left horn with indefinite swelling, left ovary slightly larger than right, no corpora seen.

1947

Sorex palustris navigatorSwager Canyon, 2200 ft., Sweetwater Mts, Mono Co., Calif.July 22 Sorex palustris navigator
1029 ♂ 168 x 81 x 20 x 5 12.7 g. Weighed July 24. Skull only

Testes 1 mm.

Sorex palustris navigator

1030 ♀ 163 x 81 x 19 x 5.5 10.2 g. " " " " "

U.G. fairly stout, no embryos.

Sorex palustris navigator

July 23 1031 ♂ 161 x 75 x 19 x 5 10.9 g. " " " " "

Caught during day. Testes 1 mm.

Sorex palustris navigator

1032 ♀ 155 x 75 x 19 x 5.5 9.2 g. " " " " "

Caught during day. U.G. small.

Sorex palustris navigatorJuly 24 1033 ♀ 164 x 77 x ~~19~~ x 6 11.1 g.

U.G. medium-large, no embryos. It is not primo over back.

Sorex palustris navigator

1034 ♀ 157 x 78 x 20 x 5 12.5 g.

U.G. medium-small. no embryos.

Fletcher, Mineral Co., Nevada.

July 26, 1947

1035 ♂ minimumus perutata 179 x 82 x 30 x 14 32.3 g. Pebbly desert.1036 ♂ " " " 190 x 80 x 30 x 15 35.9 g. Sandy desert
Testes 6 mm.1037 ♂ Perognathus
parvus olivaceus 185 x 102 x 25 x 10 21.9 g. Testes 5 mm
Gravelly desert

1947

July 26 1038 ♂ Oryzomys 125 x 45 x 20 x 16 16.0g.
Testes 5 mm. Pebbly desert.

1039 Myotis ^{lucifugus phasma} ♂ testes 4 mm. 85 x 38 x 11 x 15 6.0g.
shot by Benson. Testes 4 mm.

1040 Peristrellus hesperus hesperus 75 x 28 x 7 x 13 5.0g
shot by Benson

1041 Peristrellus hesperus hesperus 73 x 30 x 6 x 11 4.3g

1042 " " " " 82 x 32 x 12 x 7 5.9g

1043 " " " " 74 x 29 x 6 x 13 4.4g.

1044 " " " " 79 x 32 x 6 x 13 5.1g.

July 27 1045 ♂ Lasionycteris noctivagans silver-haired bat. shot by B. 96 x 38 x 10 x 15 8.0g.

1046 ♂ Myotis ^{interior} volans In house. 101 x 40 x 9 x 14 7.8g.

1047 ♂ " " " " 100 x 45 x 10 x 14 9.2g.

1048 ♀ Myotis ^{melanorhinus} subulatus In house 88 x 37 x 7 x 14 5.0g.

1049 ♀ Dipodomys ^{panamintinus leucogenys} In dunes. 300 x 176 x 45 x 13 71.5g
no embryos, no placental scars.

1050 ♂ Dipodomys ordii monoensis dunes. 235 x 126 x 39 x 14
testes 10 mm. 49.0g.

1051 ♂ Microdipodops Testes 4/ 156 x 82 x 25 x 10 13.5g.

1052 ♀ " V.G. stout no emb. 156 x 84 x 23 x 16 12.3g

1053 ♀ Perognathus longimembris ^{panamintinus} 137 x 75 x 18 x 6 7.5g.

Caught by Benson in live trap in gravelly sage desert. Vagina open. no embryos.

July 29 SE. side of Big Indian Mtn. 9700 ft. Warner Range, Mineral Co., Nevada
1054 Ochotona princeps 178 x 29 x 29 x 21 lactating. V.G. very large. shot in A.M. 131g

1055 " " 165 x 13 x 27 x 22 uterus stout. min. fresh. 123g

1056 " " 169 x 10 x 26 x 19 V.G. fairly stout 117

1057 " " 160 x 9 x 27 x 20 uterus slender 91g

1947

SE side Big Indian Mtn, 9700 ft., Warner Range, Mineral Co., Nevada
July 29

1058 Ochotona princeps 169 x x 28 x 21 113g. shot in A.M.

1059 " " 132 x x 26 x 20 51.7g. shot in A.M.

Fletcher, 92 Mineral Co., Nevada

skull only
 1060

Microdipodops -

Pale bellied capture that
 had escaped. Found dead in house, skull only.

JOURNAL

O.P. Pearson
1947

Journal

1

July 20 Swager Canyon, 8200 ft., Sweetwater Mtns., Mono Co., Calif.
Left Berkeley in Power Wagon, 6 AM, arrived Swager Canyon about 4:30 P.M. Benson shot a Eutamias at Leavitt Meadows on the way down the east face of the Sierras.

Put out 35 Museum specials along stream in grass (6 yd. intervals), and 32 Benson live traps - all baited with walnuts. Put out ca. 5 P.M. Checked the live traps at 9 P.M. and they contained a live Sorex palustris, 1 live Peromyscus, and 1 dead Sorex sp.

July 21 Coyote howled ca. 4 AM. Snap traps held about 5 long-tailed Microtus and 4 Peromyscus, and one Sorex sp. One more Peromyscus in live traps. S. palustris was dead in cage.

Skinned til 10:30 AM, then put out more traps after much palahua re. saving of data from discarded specimens. Put 98 traps (Benson, live) at 12:30 PM on hill behind camp as follows:

19 in bunch grass.	19 in artimesia	{ Baited with seed.
44 in mahogany	5 in blue	

19 more in mahogany. 16 more in artimesia

also put 49 museum specials along the stream at the western edge of the valley; 3:30 PM., walnut bait. While setting this line I scared up a Zapus who, in trying to escape, jumped into stream and swam across jerkily, presumably by same jumping motions as on land. Caught him by hand

1947

and caged him.

July 22 The 49 snap traps along the stream had the following score: 6 Zapus, 6 Microtus longicaudus, 1 Microtus montanus, 4 Peromyscus, 1 Perognathus, 2 Sorex sp., and 6 Sorex palustris - total 26. The original line of 35 traps along the other stream: 3 Microtus montanus, 2 Microtus longicaudus, 3 Peromyscus, 1 Zapus. The original line trap line had 1 Sorex palustris in same trap as 1001, and 1 Microtus longicaudus. The chipmunk line of live traps as follows: 19 in grass - 3 Peromyscus and 1 Lagurus (baby), 19 in artimesia - 2 " and 1 " adult (empty), 44 Mahogany - 2 Peromyscus, 16 more in artimesia behind camp - 4 Peromyscus, 2 Lagurus (bats) and 1 Perognathus. No chipmunks in this line in A.M., but 4 were in it at 2 P.M.: 4 young ones, probably E. x that 3 others in mahogany region at 2:30 P.M.

The 49-trap line caught 2 Microtus longi and 1 Sorex palustris during the day.

One of this morning's Zapus was caught by the base of the tail - apparently dead. Later revived (see Zapus notes)

Shot a Myotis after dusk, too dark to read newspaper.



Pearson
1947

3

Spent much of the day skinning water shrews. Nearly blew a fuse thinking of the time going into Sorex n+1 to enlarge an already lengthy series while 90% of my catch was rotting in the sun, never to be looked at even. Benson's theory seems to be that Microtus etc. reproduce all right without my worrying about their reproduction, and that we will never get anywhere studying the mammals of the Sweetwaters if I spend all my time looking for scent glands etc. At least that was the gist of yesterday's discussion. Today I am a yes-man and advance Science by putting up Sorex palustris - but not convinced or converted.

July 23

Temp. 36° before sunup, and some ice on grass overhanging stream.

The original 35-trap line caught 2 Microtus montanus, 5 Peromyscus, and 1 Zapus. Picked up the original live trap line in which were only 2 Peromyscus. The 49-trap line along the west stream had 8 Peromyscus, 3 Microtus longicaudus, 3 M. montanus, 2 Zapus, and 2 Sorex palustris in the morning, and 2 more Sorex palustris in the late afternoon.

The chipmunk live traps in the morning were as follows: 19 in grass - 3 Peromyscus and 1 Logomys. 19 in artimesia - 2 Eutamias and 1 Peromyscus. 44 in mahogany - 4 Peromyscus. also shot some

chipmunks making a total of 8 in the morning, 5 of them in artemisia and 3 in mahogany... apparently all same kind. There were 3 more in these traps in the P.M.: 2 in artemisia and 1 in mahogany. Picked up these traps in P.M.

Saw a cotton tail in the mountain mahogany this morning. Drove to Bridgeport at lunch time - half-hour drive each way. Continue to catch (and shoot) nothing but young - appearing chipmunks.

July 24

The original 35-trap line caught 4 Peromyscus, 2 Microtus longicaudus and 1 Sorex sp. The 49-trap line caught 1 Microtus, 1 Peromyscus, 1 Sorex sp., 3 S. palustris, and 2 Zapus, one of which was caught by the tail and curled up in hibernating position. It later recovered.

Hoped to get off by lunchtime but many chipmunks and a porcupine shot this morning while cony-hunting slowed things down. Found mole tracks in the aspen grove below the meadow, so we stayed overnight after Benson set for the moles. Bat shooting as usual in evening.

July 25

One mole and a gopher in the mole traps. Couldn't track down the Mountain Mahogany in Jackson. Saved specimen of it and huckleberry.

Left about 9 AM? for Bridgeport, Brodie, Aurora, and Fletcher. Looked for bats in

1947

5

abandoned buildings and mine shafts in
 area but saw none ... and only one
 inhabitant (Lee Stevens). (about 5 PM)

Put out the following traps at Fletcher:

- ① 100 Museum specials in pebbly-gravelly desert (walnut)
- ② 50 Benson live traps " " " " (sandy)
- ③ 36 Museum specials in sandy desert (these
 were new, stiff traps) Bat shooting in evening.

July 26 Catch at 5 AM as follows:
 (Saturday)

- ① Peromyscus 20, Microdipodops 12, Dipodomys 1,
Perognathus 1, Eutamias 1. = 35
- ② 4 Peromyscus, 1 Microdipodops = 5
- ③ 2 Peromyscus, 4 Dipodomys ordii, 2 D. leucogingys,
 1 Eutamias. = 9

Benson got as follows:

- ① ^(106 Museum specials) Peromyscus 17, Onychomys 1, Microdipodops 10 = 28
- ② (100 live traps) 22 Peromyscus, 6 Microdipodops = 28
- ③ (40 dunes) 3 Peromyscus, 4 Dipodomys leucogingys, 4 Microdipodops = 11

Spent the day skinning. Moved all the traps
 and now have 100 Mms. spec. in the sandy desert
 (dunes) and 38 live traps in same region, 5 PM.

Bat shooting before dark, and quite successful
 netting in the house after 9 P.M.



1947

6

July 27 My 50 live traps in the sand caught only 3 *Peromyscus*. The 100 snap traps in the dunes caught 2 *Microdipodops*, 1 *Eutamias*, 15 *Peromyscus*, 4 *Dipso ordii* and 4 *Dipso leuco*.

July 28 Fletcher. Put up bats in the morning, then left for Hawthorn. Stopped just over the divide to look for ^{ice} cones on the S.E. slope of Cory Mtn. Found droppings, hay piles, and heard comies calling but didn't see any. Then went ^{to} Hawthorn and drove up Corey Canyon to some mines on the S.E. face of Big Indian Mtn near its top. Saw comies there and missed some with the shotgun in the late afternoon. Saw a mole digging in the dry rocky-sandy road shoulder a little above the reservoir in Corey Canyon. Slept in upper Cat Creek at about 9200 ft.

July 29 Fletcher. Hunted comies early in the morning. We shot 11 between us and saw a few more, then drove down Corey Canyon to the Reservoir to skin them. Looked for moles in aspen groves on the way down and for more comies in a good big rock slide at about 8400 ft., but saw neither comies nor moles. Did see moles ^(tunnels) in sand & sagebrush near Fletcher lava flows. Supper of steak and watermelon with Whiskey Jack at Fletcher (Davis) and stayed with him overnight. Four more bats in the old house were collected before bedtime.

2

Pearson, O. P.

Miscellaneous Catalogue

August 1947 - May 1948

CATALOGUE NOS. 1061 - 1132

Pearson
1947

6

Millbrae, San Mateo Co., Calif.

August 27

- 1061 ♀ antrozona pallidus ^{pacificus} 117 x 45 x 15 x 30, collected by R.P. Maynard about Aug. 24. No embryos.
1062 ♂ " " " 125 x 50 x 14 x 30 " " " Testes 7 mm.
1063 ♀ " " " 123 x 47 x 15 x 29 " " " No embryos.
~~1064 ♂ Sorex~~ ~~105 x 44 x 12 x 8~~

Sky Line Blvd., 4 1/2 miles S. of Lake Merced San Mateo Co., Calif.

Sept. 9, 1947

- 1064 ♂ Sorex vagrans 105 x 44 x 12 x 8 Caught by hand 8 AM. Killed by chloroform. Subnat. saved in Zenk. and acetone. Hilt not prime over hips. Testes tiny.

Point Arena, Mendocino Co., Calif.

Oct. 12

- 1065 ♂ Sorex vagrans vagrans 89 x 40 x 12 x 8 2-6 AM in line trap but died 1/2 hr. later. Hilt not prime on back, but prime on top of head. Subnat. in Zenk. + acetone. Testes tiny. Toxiform in antestine sac.

- 1066 ♂ Sorex pacificus sonomae 131 x 56 x 15 x 8 9.9 g. Caught 10/11-12/47, killed 10/26/47. Quite fat. Testes 3 mm. Eyes large for a cheer. Subnat. saved in Zenk. + acetone.

- 1067 ♀ Sorex vagrans vagrans 102 x 40 x 12 x 8 5.1 g. Caught 10/11-12/47. Killed 11/2/47. Hilt prime. Fat. U.G. tiny. Subnat. in Zenk. and acetone.

- 1068 ♀ Sorex vagrans vagrans 106 x 44 x 13 x 7 5.5 g. Caught 10/11-12/47, killed 10/30/47. Entire back, sides, and top of head molted over night 10/18/47. New hair more short, dark gray, old hair brown. Belly did not molt for 5 days or more. Fat. Hilt entirely prime. U.G. small.

- 1069 ♂ Sorex trombergii montereyensis 125 x 54 x 15 x 9 6.7 g. Caught 10/11-12/47, killed 10/29/47. Fat. Fat. scent glands small but bright maroon. Chest not prime. Subnat. in Zenk. and acetone. Testes 3.5 mm.

- 1070 ♂ Sorex vagrans vagrans 106 x 44 x 13 x 7 6.2 g. Caught 10/11-12/47, killed 10/30/47. Hilt all prime. Testes 5 mm. "Chucked" when put in with 1067. Fat.

- 1071 ♀ Sorex pacificus sonomae 135 x 58 x 16 x 9 12.4 g. Caught 10/11-12/47, killed 11/4/47. No emb. much fat (2.5 gms subnat.).

Oakland airport

- 1072 ♂ Sorex vagrans habicoetes 109 x 45 x 14 x 7 6.2 g. Caught by Joe Marshall while it was running and being chased by willows on 11/27. Killed 12/4/47. Testes tiny.

Pearson
1948

7

$3\frac{1}{2}$ mi. n. Parkfield, Monterey Co., Calif.
March 2, 1948

1073 ♀ Corynorhinus rafinesquii

95 x 46 x 10 x 36 6.1 gms.
rt. int. larger than left. No emb.
Caught Feb. 22, ~~at~~ Died March 2
Collected by Ian McMillan

1074 ♀ "

99 x 46 x 10 x 36. Rt. horn of int. larger, severed, no sperm seen in smear. Caught Feb 28 by Ian McMillan. Died March 2

1075 ♂ Reptsicus fuscus

119 x 50 x 11 x 17 10.7 gm. Caught Feb 28 by Ian McMillan, Killed March 2. Testes 4 mm. Hide brown.

Sanger, Fresno Co, Calif.

1076

Didelphis virginiana ♀

March 24, 1948

from Reynolds. Caught at Sanger, Fresno Co,
March 24 or 26. Had 10 young, all dead 4/11/48,
about 50 days post partum. Ovaries pale, warty,
no corpora seen.

1077

Myotis yumanensis ♀
(MK 622) Calaveras? Dam.

3/27/48

One fairly large follicle, no antrum. Sperm
present, especially in specialized lower end
of oviduct.

1078

Myotis yumanensis ♀
(MK 623) Calaveras Dam?

3/27/48

One fairly large follicle with antrum and
secretion, but possibly early atresia. Sperm
in oviduct.

1079

Myotis thysanodes ♀
(MK 621) Calaveras Dam?

3/27/48

One corpus luteum at least several days
old, but ♀ not visibly pregnant.

1948

9

El Cerrito, 500 ft., Contra Costa Co., Calif.

1080

Citellus beecheyi ♀

4/10/48

Shot El Cerrito. Vagina open. Mammary prominent, milk expressible. 2 swellings each horn (probably recently parturient) and 2 white lumps each ovary

1081

Sceloporus ♀
 caught 3/21/48
 killed 3/23/48
Botanical Gardens, Berkeley.

1082

Myotis yumanensis saturatus ♀

caught 3/26

killed 4/1/48

(Hildebrand 1612) Calaveras Dam, Alameda Co. 79 x 36 x 8 x 12

1083

Myotis thysanodes ♀
Graveland, Tricoloma Co., Calif. April 18
 3000 ft. 1948

MK 650

 ut. uterus stouter. Ovary in oviduct 51-R 3. Sperm in uterus.
 ♂ + ♀ pronucleus + 2 polar bodies. 93 x 42 x 10 x 19

1084

Myotis thys ♀

as 1083

90 x 40 x 9 x 19

MK 651

 ut. uterus stouter. No corpora seen under dissect. scope.
 largest follicle in left ovary. Two old corpora in left ovary. Many mitoses in uterus, no sperm. Two unimplanted blastocysts in 1 uterus, several hundred cells.

P. FENTON

1948

1085
MK 652Myotis thysanodes ♀as 1083
93 x 43 x 9 x 19

no corpora visible under dissect scope. Med. follicles in both ovaries. Rt. uterus stouter.

1086

MK 653 Myotis thys. ♀as 1083
93 x 42 x 10 x 19

med. follicles in both ovaries under dissect scope, possible corpus in left. Both uteri stout, rt. stouter.

1087

Myotis thys. ♀caught 4/18 by Carl Kofas
near Grosden, Tullahoma Co, 3000'

MH 1630

med. follicles in both ovaries under dissect. scope, possible corpus in left. ~~Left~~ ^{Rt.} uterus stouter.

1088

Myotis thys. ♀

as 1087

MH 1632

med. follicles in both ovaries. Details obscured by sandblast. Rt. uterus stouter

1089

Myotis thys. ♀

as 1087

MH 1631

med follicles in both ovaries, probable corpus in rt. Rt uterus stouter

1948

1090 Myotis thys[♀]

as 1087

MH1629 med. follicles in both ovaries, probable corpus in rt.
Rt. uterus stouter.

1091 Myotis thys[♀]

as 1083
93 x 43 x 9 x 19

MK 654 med.-large follicles in both ovaries, probable corpus in rt.

Rt. uterus stouter, small, almost-implanting blastocyst in ut. (in contact all the way round. No sperm. Good corpus luteum in rt. ovary, mis calc at tubo-uterine junction. Many mitoses in uterus.

1092 Myotis thys[♀]

as 1083
91 x 40 x 9 x 19

MK 656 med large folls. in both ovaries, probable delicious vascular corpus in rt. Rt uterus stouter. In sections no large follicles or corpora, although part of rt. ov. missing. No sperm.

1093

as 1083
91 x 42 x 9 x 19

MK 655 Myotis thys[♀]

no corpora seen. Rt. uterus larger.

1094 Myotis thys[♀]

as 1087

MH1633 med. large follicles both ov., large corpus or foll. rt. ov. Rt.

uterus stouter, In sections: good corpus in rt. ovary, small, unimplanted blastocyst in uterus, zona still present. 54-R1-#1

P. PEARSON

1948

1095 Myotis thys ♀ aa 1087
 MH 1636 Probable corpus in left ov., rt. interna stouter.

1096 Myotis thys ♀ aa 1087
 MH 1635 Med. large foll. in both ovaries, possible corpus in left.
 Rt. interna larger. In sections, new corpus in left ovary, none
 in right. Good corpus with rich vascularity.

1097 Myotis thys ♀ aa 1083
 MK 659 93x43x10x20
 Left ovary much more vascular than rt, left ov. with
 possible corpus. Rt. interna stouter.

1098 Myotis thys ♀ aa 1083
 MK 658 89x40x10x19
 Left ovary more vascular, no corpus seen. Rt. int. stouter

1099 Myotis thys ♀ aa 1083
 MK 657 91x42x10x19
 caught April 18, killed April 19
 med foll. in both ovaries, no corpus seen. Rt. int. stouter

1100 Myotis thys ♀
 PK 677 both horns about same size
 caught April 18, killed April 20
 Trielume Co. 3000 ft.

P. PEARSON

1948

April 26, 1948

Strawberry Canyon, Berkeley, Calif.

caught by Betty Davis

1101
(B.D. 12)Sorex trombidii montereyensis ♂

4/26/48

Strawberry Canyon, Berkeley. $110 \times 49 \times 14 \times 8$. Testes tiny

1102

Sorex trombidii montereyensis ♀ U.G. smallish, looks immature,no placental scars. Subnasal in Bann's + acetone $108 \times 47 \times 14$

1103

(B.D. 35)

Sorex trombidii montereyensis ♀4 late embryos $120 \times 50 \times 14$

1104

(B.D. 50)

Sorex trombidii montereyensis ♂ $110 \times 47 \times 14$

testes greyish, 5 mm., tubules inactive.

Lake Merced, S. Francisco Co., Calif.

1105

Serrhonotus
~~Serrhonotus~~

♀ caught 4/22/48. Killed 4/26

caught in contact with ♂, perhaps copulating. Lake Merced, S.F. Co., Calif. Both ovaries large. Follicles up to #2 shot size.

1 mi S. Newman (Stanislaus Co.), Merced Co. April 10, 1948

1106

(CK 371)

Mustela putorius xanthogenus

Testes large. Some sperm + matoses in tubules.

Berkeley, Calif. May 1, 1948

1107

Tadarida mexicana

May 1, 1948 Found torpid

in morning on sidewalk by Nancy Eaton. Lively when received. Killed 1 p.m. Rt. uterus slightly larger. Rt ovary slightly larger, with one fairly large follicle

1108

Pipistrellus

♂

caught 5/2/48 Saddle, Kern Co. Calif.
killed 5/3/48

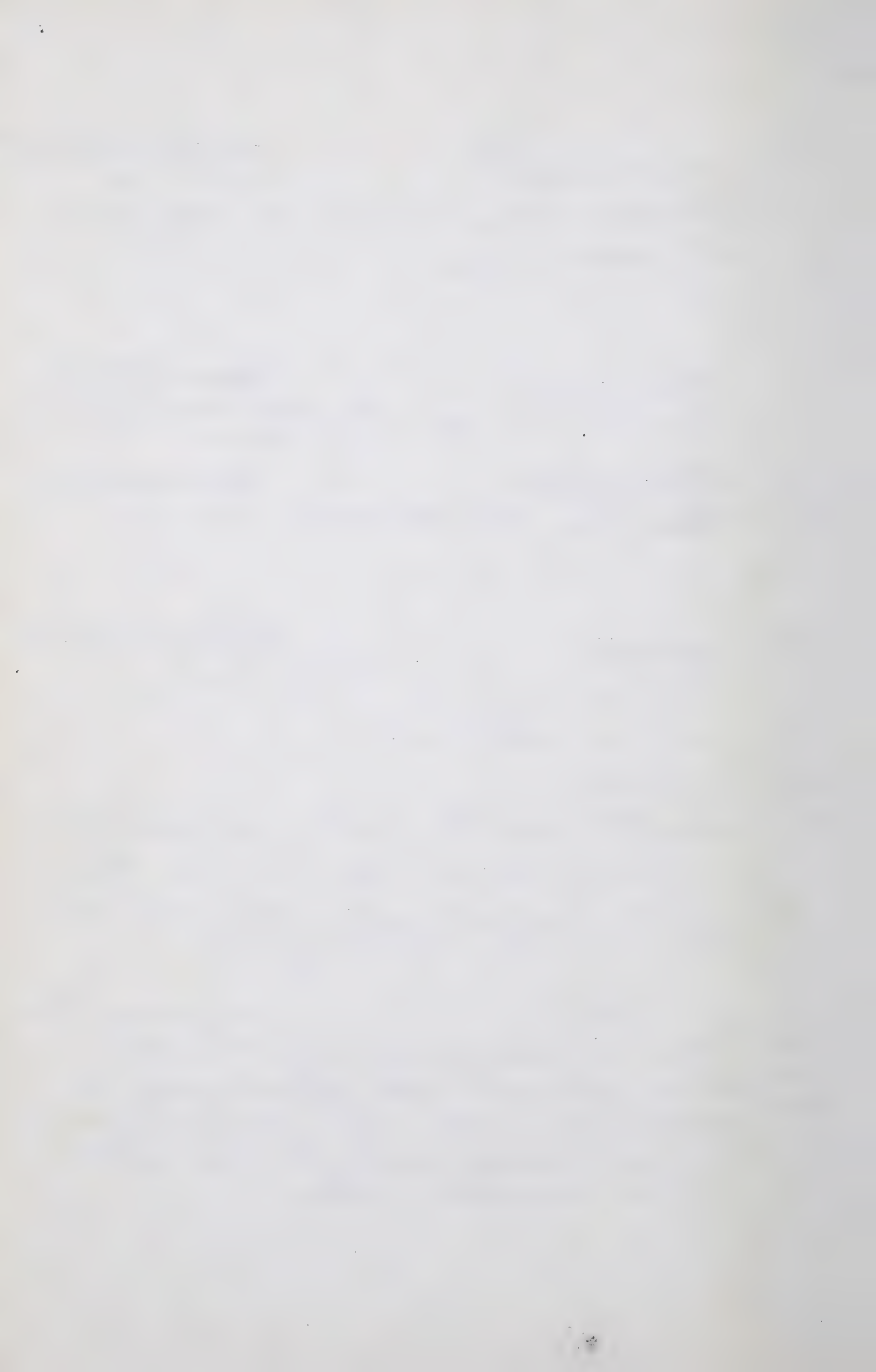
(P.K. 678)

Testes + blocks epidid. about length of hind foot, accessories large. Seminotubules quite inactive, without sperm. Epididymus with lots of sperm, especially in pigmented part.

1948

14

- 1109 Lasiurus borealis ^{telioctis} ♀ May 2, 1948, Mendota, Fresno Co.
(PK 679) 106 x 50 x 7 x 11
Uterine horns longer, more Y-shaped than in Myotis thys.
Both horns same size.
- 1110 Mustela frenata ♂ May 9, Alameda Co.
330 x 123 x 42 x 23. Found dead on road by J. Brauner.
Testes 17 mm.
- 1111 Neotoma fuscipes ♀ Apr. 28, Berkeley.
(MH 1644) Mammary large, 4 obvious placental scars 2 + 2.
- 1112 Microdipodops ♂ Fletcher, Mineral Co., Nev.
143 x 79 x 25 x 10 ♂ ♂ Caught
Died May 11, 1948
Testes 5 mm. Skeleton only.
- 1113 Myotis thys
(191) MK 654 ~~No large follicles or corpus luteum~~. No sperm. Good corpus luteum
in ut. ovary. Mic. chd at tubo-uterine junction. Many
mitoses in uterus. Small, almost-implanting blastocyst in
uterus (in contact all the way around). See 1091
- 1114 Corynorhinus rafinesquii intermedius Bandel. 1 yr. old
MK 684
PK 684? Immature May 30, killed 5/31
Both ovaries very large compared to Myotis. Many think this a yearling. Others
pregnant at this time. In sections: interstitial tissue very secretory looking, the
cells quite large and luteal-like. No large follicles but one highly vacuolated
corpus luteum. No embryos although much cellular debris
in uterus. Brown pigment in myometrium.



PEARSON

1948

1115 Didelphys virginiana
(H.R. 1-48)

Caught 3/21 Fresno Co. Parturition April 2, only 1 young reached postnatal young removed April 2 and ♀ bled with ♂. May 12-14 "Pseudopregnant"
Killed May 21

1116 Didelphys virginiana
H.R. 4-49

Caught 3/22 Sanger, Fresno Co. 6 young when captured ca 40 days old. Young removed May 2. with ♂ May 2-4 and 5-7.
Killed May 26.

1.3 mi SE. Inverness, Marin Co., Calif

1117

Corynorhinus rafinesquii intermedius
(Banded)

Inverness, Marin Co. coll. May 30
107 x 47 x 10 x 35 killed May 31

R.S.
808

age 1 year. Pregnant. Fetus 17 mm C.R., appears to be in rt. horn, although it is hard to tell. ~~and~~ dissection showed placenta in rt. horn. Rt. ovary stained red. Rt. ovary with small follicles and one corpus somewhat vacuolated but not as much as mast. left ovary with small follicles

1118

Corynorhinus rafinesquii

MK 679

Inverness caught May 30
Unbanded killed May 31

non-breeding ♀. R. or red. R. uterus slightly larger than left. Rt. ov. with small follicles; left ov. with small follicles and vacuolated corpus luteum. Uterus with much flatness

1119

Corynorhinus rafinesquii

R.S. ~~809~~
807

Inverness, coll. May 30, killed May 31
105 x 47 x 10 x 34

"may have aborted" Rt. uterus large + flabby. Both ovaries large. Placenta not retained. Rt. ovary with 2 corpora lutea, both vacuolated but one of them more so than the other. Banded: 1 yr. old.

1120

Corynorhinus rafinesquii
(Banded)

R.S. 809

Inverness, coll. May 30, killed May 31
106 x 46 x 10 x 34

1-year old. Pregnant. 1 fetus in left horn. Imm. C.R. R. or. red. Rt. ov. with small follicles. L. ov. with small follicles and vacuolated corpus luteum

1948

16

coll. May 30, killed May 31.

1121 Corynorhinus rafinesquii Banded, 1 yr. old. Inverness 102 x 43 x 10 x 35
R.S. 806 Pregnant on rt. side. Aborted but placenta still in. Fetus
~~total~~ body length 22 mm. R. ov. red. R. ov. with very vacuolated
corpus and small follicles. Left ovary with small follicles +
secretory - looking interstitial thesial. Good shells

1122 ♀ Eptesicus fuscus → coll. Merced River near Merced April 11,
R.S. 801 killed April 28. 122 x 51 x 11 x 17
uterus more Y-shaped than Corynorhinus. Rt. horn larger but not preg.
R. ov. red. See MK notes for details.

1123 Eptesicus fuscus bernardinus Merced River, 5 mi E. Newman,
M.K. 666 Merced Co. Caught April 11, died
April 27, 1948. 121 x 51 x 12 x 21
R. ut. larger than left but not preg. R. ov. red.

1.3 mi S.E. Inverness, Marin Co., Calif.

May 30

1124 Corynorhinus rafinesquii Inverness, May 30 - killed 5/31
P.K. 685 Unbanded. 101 x 50 x 10 x 32 x 38
Pregnant in rt. horn; fetus 15 mm, C.R. R. ov. red. Rt. ovary with
large, vascular, vacuolated corpus luteum and small follicles. Left ovary
with small follicles, interstitial thesial more fibrous, not as glandular
as in rt. ovary.

1125 Corynorhinus rafinesquii Inverness, May 30 - killed May 31
P.K. 684 Banded 110 x 51 x 11 x 34 x 38
Pregnant, ovaries large, 1 yr. old. Rt. ov. red. Implant in rt. horn,
fetus 13 mm C.R. Rt. ovary vacuolated but vascular corpus, small
follicles. Left ovary - small follicles (but ovary is vascular)

1126 Corynorhinus rafinesquii Inverness, May 30. killed May 31
P.K. 683 Banded. 110 x 52 x 11 x 31 x 38
1 yr. old. Preg. Fetus in rt. horn. 12 mm. C.R. R. ov. red.
Left ovary - one large vacuolated corpus + small follicles
Rt. ovary - small follicles

1948

17

1127
MK 692Corynorhinus rafinesquiiBorneo. Caught near 30
Kills near 31

Banded

over 1 yr.-old. Preg. Ovaries large. Implantation probably rt. horn,
 fetus (12 mm.) C.R. B. ov. stained red. Rt. ovary small follicles.
 Left ovary vacuolated corpus and small follicles.

Pearson, O.P.

Sweetwater Mts. (2d. trip)

June 1948

CATALOGUE NOS. 1128-1148
JOURNAL

~~1128~~ ^{8200ft} Swager Canyon, Sweetwater Mts., Mono Co., Calif.
June 28, 1948

1128 Sorex palustris navigator 147 x 77 x 19 x ♀?

In live trap 11 p.m. - 6 a.m., weak. died an hour later. Hide prime. Saved submax in Bonin's acetone.

1129 Sorex palustris navigator 145 x 76 x 19 ♀

4 p.m. to 10 p.m. alive. Died overnight. Very rotund, nipples visible. Hide prime. Much mammary tissue. Uteri long, no placental scars, ovaries large and vascular. Saved submax in Bonin's and acetone.

1130
(RPS)

Zapus princeps

222 x 134 x 32 x 14 ♂

Caught June 27. ~~Hit~~ Torpid in trap. Died June 28. No fat. Testes 7 mm. Hide prime.

1131 Sorex vagrans amoenus

97 x (35) x 13 x 7.5 ♀

Caught by hand 6 a.m. in grassy meadow. Died during afternoon. Looks pregnant, mammae visible. Much mammary tissue. 9 embryos, 5 + 4, in dark bumps 7 mm diam with pink (placental) caps. Hide prime. Saved submax & reproductive tract in Bonin's.

1132 Sorex vagrans amoenus

94 x 43 x 12 x 7 ♂

Caught by Anita during day. Testes 2 mm, undescended. Saved submax. in Bonin's.

P. PEARSON

1948

Zapus Swager Canyon, 8200 ft, Sweetwater Mt., Mono Co., Calif.

RP5 - June 27 3 a.m. Hibernating in trap.

♂
See # 1130

Still hibernating 8:35 a.m. Cut toe 8:35,
considerable bleeding. Died June 27

1133 ♂ Zapus princeps - live

June 28th. 6 A.M. Swager Canyon. Torpid in trap, came out about noon. Put on short day July 4. Torpid 9/15, 9/23, 9/24. Lick 10/16. Died 10/20. 16g. Testis 7mm. Lungs OK.

1134 ♂ Zapus princeps

224 x 140 x 34 x 13 19.7 g.

Live trap, June 28th 6 A.M. Swager Canyon. Put on long day. Castroed July 5. Considerable fat. Testis 6.5 mm. 8/22 hibernating in can. 8/28 awake, still in can, breathing very slowly. 8/29 Dead in can. 224 x 140 no fat.

1135 ♀ Zapus princeps

233 x 142 x 31 x 14

Live trap, June 28th 6 A.M. Swager Canyon. 7/3 torpid 7/4 still torpid 7/5 dead.

no fat. H. id. princ. - Late preg. 2-1-2, C.R. 16mm.

Spleen very small. No mammary tissue.

R. PEARSON

1948

Swager Canyon, 8200 ft., Sweetwater Mt., Mono Co.
Calif.1136 Zapus princepsLive trap, Swager Canyon, June 27th 3 A.M.1137 Zapus princepsLive trap, Swager Canyon, June 28th 6 A.M.

Sluggish when brought in. Shortly thereafter became torpid, but returned to normal in mid-afternoon. castrated July 5. Died Jan 1. ♂

June 30

Swager Canyon

1138 Sorex palustris

143 x 79 x 19 ♂

Dead in trap overnight. Testes 2 mm. Skull only. Stomach empty.

1139 Microtus

177 x 70 x 22 x ♂

Dead in trap 12 night - 7 a.m. along stream. Testes 13 mm, but tubules not visible. No skin, no skull. Saved ~~any~~ testis.

1140 Peromyscus

143 x 66 x 21 x 18 ♀

Overnight: No embryos, no scars, although uterus is fairly stout. Adult pelage.

1141

Peromyscus.

159 x 76 x 20 x 17 ♀

Overnight. Sub-adult pelage. Pregnant, 2 and 2. Swellings 6 mm., spherical.

P. PEARSON
1948

Swager Canyon, 8200 ft., Sweetwater Mts.,
Mono Co., Calif.

1142

Peromyscus.

168 x 74 x 19 x 19 ♀

Overnight. Adult pelage. Mammary tissue + milk.
Uterine scars: in right horn 4 recent, others old. In left
horn 2 recent, no others seen. ~~Ovaries~~ U.G. saved.
No skin no skull

1143

Zapus princeps

221 x 131 x 31 x 12.5 ♂

Caught June 30, Died July 2. No fat. Testes 7 m.m.,
tubules not visible. Hide prime. Skull only + humerus

1144

Zapus princeps221 x 133 x ³¹~~31~~ x 14 ♀

Caught 6/28. Torpid 6/29. Dead 7/1. No fat,
hide prime. Uteri medium thickness, no scars seen.
Ovaries saved. Skull only + humerus

1145

♀ Zapus princeps225 x 135 x 31 x 15[♀]

Caught 6/28 12 o'clock run. Not torpid when caged.
6/29 6 p.m. torpid. 6/30 torpid 7/1 dead. No
fat, hide prime. Uteri medium thickness, faint scars
about 4 + 3, Ovaries saved. Skull only + humerus.

1146

♂ Zapus princeps

225 x 135 x 32 x 14 ♂

Caught 6/28. 6/29 torpid all day 6/30 torpid
7/1 dead. No fat. Hide prime. Testes 6.5 m.m. Skull +
humerus only.

1948

Swager Canyon, Sweetwater Mts., 8200 ft.Mono Co., Calif.1147 ♂ Zapus princeps

225 x 139 x 31 x 14

Caught 6/30. Torpid. Died 7/1. No fat. Hide
 prime. Spleen very small. Testes 6 mm; saved. Skull
 only.

1148 ♀ Zapus princeps

236 x 142 x 32 x 16

Caught 6/29. Dead before 7/3. No fat. Hide prime.
 Early pregnant. Bumps $2\frac{1}{2}$ mm. 4 left 3 rt. Skull only

JOURNAL

1948

7

P. PEARSON

^{M.}
June 21 - From Berkeley to Monterey to Mariposa.
Cherries ripe and very first peaches. Slept in
grass - blue oak rolling hills west of Mariposa.
Numerous californica ground squirrels and ~~flycatchers~~; Kingbirds;
coyotes) howled during night.

^T
June 22 Yosemite Valley in morning, camped at
Tenaya Lake in afternoon. Many deer along
the road the road below Tenaya and at Tenaya.
also saw 3 marmots (1 at Tenaya), California
and Belding's Ground Squirrels, Chipmunks,
1 coney at close range at Tenaya.

^{W.}
June 23. Drove to Soda Springs and packed north
toward Young Lake. The last half mile of
the trail was blocked by snow-drifts, so
camped on a ridge (10,000 ft.) west of Rogged Peak
among Lodgepole Pine. Mountain Hemlocks
and white Pine and Red Fir nearby,
also two Douglas Squirrels on this ridge.

^{Th.}
June 24 Decided to pack back to Dog Lake to camp.
Many deer. Many fishermen and mosquitoes
around Dog Lake (and Ground Squirrels) so
camped on the hillside north of the east
end of the lake. Pure Lodgepole Pine that
had been burned over many years
earlier. a few mosquitoes at camp but
they disappeared before dark.

1944

8

P. PEARSON

F

June 25

- Awakened by snorting & stamping of deer. A buck stood 20 yards from our sleeping bag eyeing us nervously while a doe ~~stood~~ stood quietly about 20 yards beyond him. His horns in velvet, just beginning to branch. As we watched him, a marten hopped downhill between us and him, stopped momentarily to look at the deer, then disappeared downhill. Chipmunks & probably Douglas squirrels at campsite.

After breakfast climbed via Moraine T hut to the ridge (11,000 ft-) southward above Taylor Lakes. Many deer (perhaps 16 in the 3 hr. walk up). The lodgepole pine gives way at about 10,500 to whitebark pine which became quite stunted and finally disappears just short of the top of the ridge. At the very top saw Belding Ground Squirrels, Chipmunks, and Gopher earth mounds. The white-bark zone was covered with ~~XX~~ Deer? (or sheep?) droppings. Heard one coney at close range at about 10,500 ft. Very large droppings at about 10,000 contained deer hair and hoof coverings, probably prunus.

Have found no coney hay piles - possibly because there has been practically no green ~~for~~ available. am surprised at the absence of green grass, alpine ~~mountain~~ flowers, etc. Nowhere have we seen bush growth - like

1945
Pearson

9

snow melting & showing "dry" grass & Taylor Lakes still frozen.

Returned to camp about 5 P.M. to find mosquitoes much more abundant than yesterday although weather was the same.

Sat.
June 26

No more water. Snow-drift had retreated about 1 foot in 1 day. Packed up and left for Troloune amidst numerous mosquitoes. Troloune, Trego Pass (covey droppings), Mono Lake, then 22 miles out the Mary Road thinking it was the Bodie Road. Flat tire on way back, so skipped Bodie and went to Swager Canyon near Bridgeport. Put out 25 new aluminum Sherman along stream in middle meadow, and 25 Bensons.

Many Belding ground squirrels along road west of Bridgeport. Two deer in Swager Canyon at supper time and one porcupine in willow? shrub along stream in middle of the meadow. Men in Bridgeport say snowfall in Sierra look scanty.

1948
Pearson

18

sun
June 27

score:

aluminum sherman live (25)

Benson live (25)

10 p.m. 1 zapus

0

3 a.m. 1 zapus, 2 water shrews

0

6 a.m. 1 zapus

0

3 p.m. 0

1 meadow

Picked up the Benson live and set it further upstream. One of the zapus was hibernating.

Photographed one of the water shrews swimming and diving. We didn't wet, nice shrew seen under water. Swam so rapidly that 1/200th second probably didn't "stop" him - certainly a neat trick to snap him in an appropriate pose as he zipped past the lens.

Shot 5 Bedding Ground squirrels to get ~~liver~~ liver + brain to feed the water shrews. They definitely eat liver, earthworm, and addis larva, also another large scorpion-like aquatic insect larva.

cents put out 24 aluminum Shermans and 10 Bensons, Tom put out 14 Bensons and 3 Shermans, and I have 24 aluminum Shermans and 25 Bensons. All ^{set} in afternoon

Pearson
1948

11

amita's lines (34)

Tom's 17

me 49

^m
June 28

10 p.m. - 1 water shrew
1 zapus
1 microtus

0

0

7 a.m. 3 zapus

0

1 zapus
1 water shrew

2 p.m.

0

0

6 p.m. 1 sock sp.

at 11 p.m. last night saw another porcupine in a
thick willow bush out in the meadow - this porcupine looked
almost as big as a bear. On the 7 a.m. run caught
a bob-tailed sock sp. out in the grassy meadow. She
died in the afternoon. Much mammary tissue and
9 small embryos - probably her second litter.
Saw a cottontail? in the arteriosia and Hallowsell
spotted a wood-rat nest on top of a rocky
pinnacle.

The first zapus that had been hibernating
died. A male, no fat. The three toad ones
so far have been ♂♂.

Rearranged trap lines in search of more zapus.
all so far baited with walnuts. Have seen two
zapus at night, both in the water in narrow streams,
trying to leap but waterbound.

^{TM.}
June 29

Ran lines at midnight: 6 zapus, 1 water shrew and
1 microtus. Moon came up at 2 p.m. at 7 a.m. 4 zapus,
1 water shrew, 1 Peromyscus, 1 microtus.

Pearson
1948

12

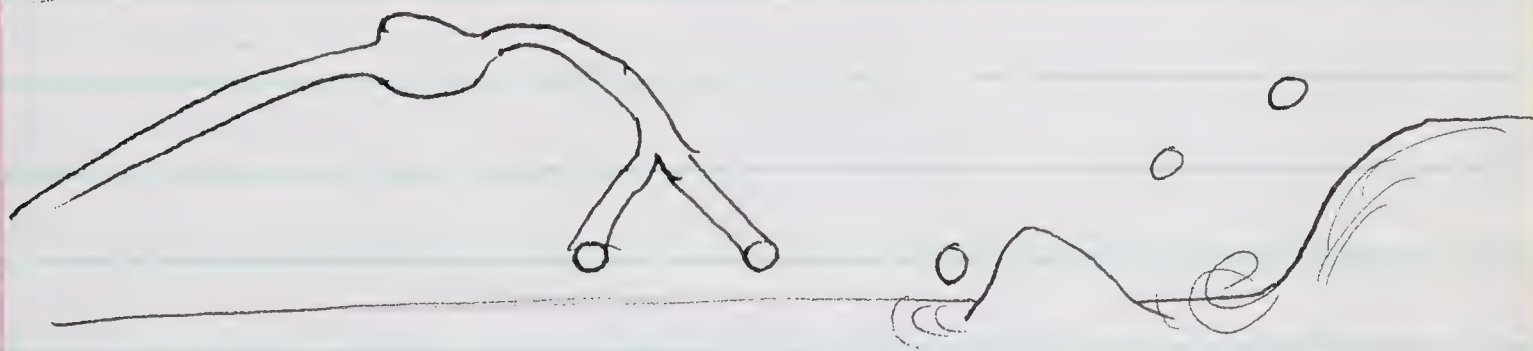
June 30

Several of the captured *Zapus* have died. There seems to be poor survival for those found torpid in the traps. Trapping score overnight: 3 *Microtus*, 5 water shrews, 6 *Zapus*, 4 *Peromyscus*.

I in preparation for leaving had to release some water shrews. One had escaped from his cardboard box and 4 others we released and lost trying to photograph. Set up the camera at a very nice mossy bit of stream by a waterfall etc, with a rock in in stream. Hoped to get a shrew to pause on the rock for a picture, but they dashed off with astonishing rapidity. Only one of the four (2 of them twice) = 6 attempts) waited for the shutter to click - and he was one who had gotten his fur wet + disarranged. They swim from the rocks to the banks (about a foot) and disappeared into tunnels which ~~we~~ had not seen before, occasionally reappearing at other holes when glimpses are caught of them running across an opening or along the edge of the stream. They look very *Blarina*-like - especially if the long tail is hidden. When two meet in their tunnels, they utter a ^{series of} grating squeaks or chirps not unlike those of *Blarina*. Some of our released ones met several times in the tunnels both under the banks. We dug out one of these tunnels. There were two openings opening above water under

1948

the overhanging bank. These joined after going in and up for about a foot, then this tunnel went up about 6" more and downstream about 6" whereupon it opened into a ~~passage~~ chamber the size of a large coffee cup. This chamber was almost filled with a nest of ^{dry} grass plus a few thin flakes of bark. A tunnel led ~~to~~ beyond the nest, ^{scenting} downstream and downward.



No young or fresh scats in the nest, so it is not impossible that it belonged to Zapus or Microtus.

Captives eat earthworms, grasshoppers, ran
liers, mouse carcasses (spelt bones + skin), dead
fish, Caddis pupae, aquatic larvae of insects (many
live in this stream), large flies (catch 'em on the wing),
some bugs, but in one trial they refused flatworms
which abound in this stream.

Pearson, O. P.

Local and Miscellaneous
July - August, 1948

CATALOGUE NOS. 1149-1185
JOURNAL

1149 ♀ Lasiurus borealis
 R.W.S. 802 Both horns of uterus very stout, equal sized.

coll. May 2, Firebaugh, Fresno Co.
 Killed May 5. $115 \times 43 \times 9 \times 11$

1150 ♀ Lasiurus borealis
 MK 682

Firebaugh, Fresno Co. Caught
 May 2, 1948, Died May 4.
 $111 \times 56 \times 9 \times 14$

Both horns fairly stout but not as much so as 1149. U.G. Y-shaped

Red's Meadow, Madera Co., Calif.

1151 ♀ Zapus princeps

B. Davis
 878

Caught July 4, 1948. Red's Meadow, Madera Co., Calif. Died
 July 27. Thin. Score in uterus 3 rt 4 left.

Berkeley, Alameda Co., Calif.

1152 ♂ Sceloporus
 Aug 6. Testes mm, pinkish.

Caught Berkeley Aug 3, killed
 Testis 4 mm. Nose-anus 70 mm

Pearson
1948

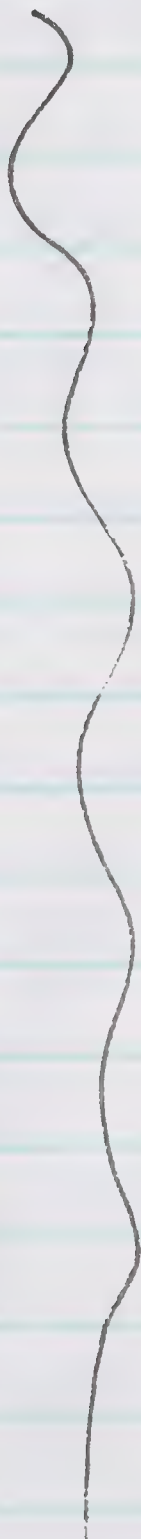
22

Swager Canyon, 8200 ft, Mono Co., Calif.

1153 ♀ Lepus palustris navigator

149 x 80 x 20 x 7.

Caught June 27, Swager Canyon, Mono Co., Calif. Died Aug 9, 1948
Fleas. Pale patch of ~~the~~ short fur on belly underlain by dark skin.
Other dark patches on back. Considerable fat. Uteri long and
fairly broad.



1.3 mi SE Inverness, Marin Co., Calif.

all caught Aug 10, killed Aug 11

1154 ♀ Corynorhinus rafinesquii intermedius 105 x 51 x 11 x 37 ⁴⁵ 11.0 gm.
Banded by M.K., no. 26699. ⁴⁶ Lactating when banded July 16, 1947; pregnant May 30, 1948

Broke wing while capturing. Killed by ether Aug 11. Lactating. Mammary area ^{bare} large (9 mm), nipple large (3 mm), milk can be expressed. Uteri not enlarged, both horns same size. Ovaries large, equal size, no corpora or large follicles. Thread around rt. horn. In sections: both ovaries with small follicles, interstitial tissue quite luteal, both ovaries vascular, no corpora, lowest end of oviduct heavily ciliated, some flatworm in uterus but no sperm.

1155 ♂ Corynorhinus rafinesquii intermedius 102 x 47 x 12 x 35 ⁴⁴ 9 g.

Testis 5 1/2 mm. Accessories not large. Killed Aug 11. Stomach empty. No sperm in testis or epidid. No mitoses or spermiogenesis in seminiferous tubules. Interstitial cells very large, make up half area of each field.

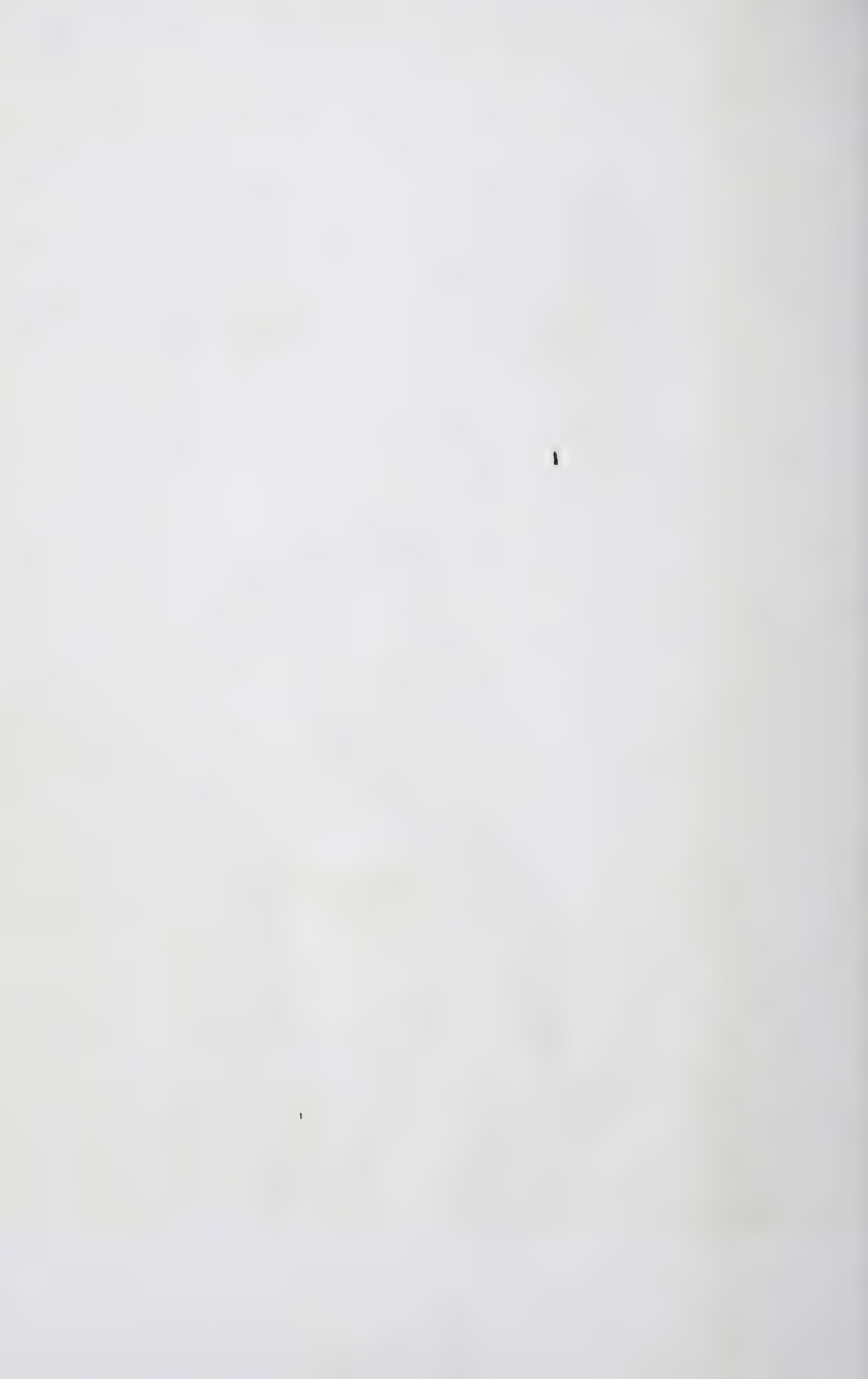
1156 ♂ Corynorhinus rafinesquii intermedius 100 x 46 x 11 x 35

Testis 5 mm. Accessories not large. Killed Aug 11, stomach empty. Seminiferous tubules quite inactive, no sperm in them or epidid. Interstitial tissue tremendously hypertrophied

1157 ♀ Corynorhinus rafinesquii intermedius 107 x 52 x 11 x 37

Banded by M.K. No. - ⁴⁶ 6966. Broke wing while capturing. Killed by ether Aug 11. Uteri not enlarged, both same size. Ovaries large but no ^{ovary} follicles or corpora seen. One medium follicle in right ovary. Nipple medium-small, no mammary tissue.





1948

1.3 mi SE Inverness, Marin Co., Calif.1158 ♀ Corynorhinus rafinesquii intermedius 105 x 48 x 11 x 39 10g.

Unbanded. Pelage looks adult. Nipple small, ~~and breast not bare~~ surrounded by bare spot 4 mm in diameter. Rt. horn of uterus slightly larger than left, both ovaries large, no large follicles or corpora seen. Thread around left horn.

1159 ♀ Corynorhinus rafinesquii

no skin no skull

Pelage and nipple look adult. Nipple fairly large but no bare space around it. Trace of milk can be squeezed out. Uteri small, rt horn slightly larger. Ovaries large. No large follicles or corpora seen. Skin + skull not saved. In sections: interstitial cells quite internal, small follicles in both ovaries, no corpora. Good for picture (high power) of primitive follicles, interstitial, cortex etc. No sperm in uterus but numerous mitoses.

1160 ♀ Corynorhinus rafinesquii intermedius 109 x 54 x 12 x 39 9.5 g.

Banded M.H. 26650⁴⁶. Pelage looks adult. Recorded as "imm.?" when banded July 18, 1947, not taken May 30, 1948.

Nipple tiny, bare area $3\frac{1}{2}$ mm. Vagina not open. Uteri smallish, rt. horn slightly larger than left. Ovaries large, small follicles numerous. Thread around left horn. In sections: possible remnant of corpus S2-R3 rt. or. no large follicles.

1161 ♀ Corynorhinus rafinesquii intermedius 107 x 50 x 12 x 39 10.3 g

nipple large surrounded by bare area $4\frac{1}{2}$ mm diam. Milk expressible. Vagina with tiny opening. Uteri smallish, right horn larger. Ovaries large, numerous small follicles seen. In sections: small follicles, interstitial tissue quite internal, no corpora. Some flatness in uterus, possibly polymorphs. No sperm. Ovaries + ut. vascular.

1948

24

1.3 mi SE Inverness, Marin Co., Calif.1162 ♀ Corynorhinus rafinesquii intermedius 103 x 51 x 11 x 38 9.2 g

Pelage looks young, nipple ting with bare spot around it about 3 mm diam. Vagina with tiny opening. Uteri smaller than any of above (1154-1161), right horn slightly larger than left. Both ovaries large with numerous small follicles. Thred around left horn

1163 ♀ Corynorhinus rafinesquii intermedius 102 x 49 x 11 x 37 9.3 g

Vagina not really open. Nipple ting surrounded by bare area about 3 mm diam. Pelage greyish, looks young.

Banded MK 2666⁴⁶9. Uteri small (as above), rt. horn slightly larger. Ovaries about same size, both large.

Immature when banded July 16, 1947; not taken on May 30, 1948. In sections: brown pigment in myometrium near upper end of one uterine. No sperm. Serosous cells in cervix [see] 54.

1164 ♀ Corynorhinus rafinesquii intermedius 104 x 50 x 11 x 37 8.5 g

Banded MK 2675⁴⁶9 on May 30, 1948. ^{condition uncertain when banded July 16, 1947; pregnant}

nipple ting, surrounded by bare spot 4 mm diam. Vagina with small opening. Uteri smallish, right horn larger. Ovaries with small follicles. Thred around left horn. In sections: no sperm, numerous mitoses in uterus. No signs of corpora

1165 ♀ Corynorhinus rafinesquii intermedius 110 x 53 x 12 x 39 10.5 g

Pelage looks adult. Nipple large, practically no bare area around it. a little milk expressible. Uteri smallish, rt. larger. Ovaries large, same size, with small follicles.

1948

1.3 mi SE Inverness, Marin Co., Calif.1166 ♀ Corynorhinus rafinesquii intermedius 108 x 51 x 12 x 38 9.8 g

Caught Aug 10, killed Aug 12. Pelage looks young. Small vaginal opening. Nipple tiny, bare spot about 3 mm. Uteri small, both horns same size. Ovaries large, no large, medium follicles or corpora seen. In sections: small follicles, interstitial tissue luteal like contracting strongly with cortex. No sperm in uterus, some mitoses in uterine epith. "Brown" pigment in myometrium.

1167 ♂ Sorex townsendi Strawberry Canyon, 500 ft., Berkeley, Alameda Co., Calif. skull only

From Betty Davis #922. Dead in live trap in Strawberry Canyon. With trypsa. Testes 3 mm.

1168 ♂ Sorex townsendi skull only

From Betty Davis #921. Dead in live trap in Strawberry Canyon. With trypsa. Testes 2.5 mm.

1169 ♂ Myotis thys. Shoreland, Trueman Co., Calif. April 18, 1948 near
Shoreland, Trueman Co.
98 x 41 x 10 x 19

MK 646 Testes small but epidid large and pigmented. Seminal vesicles large.

1170 ♀ Myotis thys.

MK 649 Right horn much larger than left

as 1169 94 x 43 x 9 x 20

August 17, 1948

Strawberry Canyon, 500 ft.,1171 ♀ Sorex townsendi

B.D.

940

uteri fairly long, slender

1172 ♂ Sorex townsendi

B.D.

941

Testes 2 mm.

1173 ♀ Sorex

B.D. 942

uteri medium - large.

Berkeley, Calif.

1948

Strawberry Canyon, Berkeley, Calif.1174 ♂ Sorex trombridgiB.D.
943

Testes 3.5 mm, definitely larger than 1172.

1175 ♀ Sorex trombridgi

B.D.

944

U.G. tiny, much smaller than 1173

1176 ♂ Sorex trombridgiB.D.
945

Testes 2 mm.

1177 ♀ Sorex trombridgiB.D.
946

U.G. smallish

1178 Laelurus borealis

MH 1651

1 mi. S. Firebaugh, Fresno Co., Calif.

107 x 44 x 8 x 11. Caught by MK. on May 2, 1948.

Uterus rather stout and Y-shaped. R. or. red.

1179 Corynorhinus rafinesquiiMK
685

Fetus:

C.R., apparently placenta in rt. horn. Rt. ovary red.

1180

MH 1634

Myotis thysanodesApril 18, 1948
near Braneland, Truckee Co., 3000 ft1181 ♂ Corynorhinus rafinesquii

MK 675

Caught April 25, 1948. Died April 29

testes 5 mm with large, pyramidal epidid. San Juan Creek, S.L.A. Co., Semin

Tubules quite inactive, no sperm in them or epidid. Interstitial cells present but not large.

1182 Corynorhinus rafinesquii

MK 668

Pregnant. Swelling in right horn (in Bouvier's) 5 x 7 mm. R. or. red

1948

1183 ♀ Lacrima borealis
MK 663U.G. medium - large (smallish for a Lacrima). Rt. horn
longer than left. b. ovary red.1184 ♂ Sorex ornatus

[85] x [32] x 11 x

B.D. 923

Caught Aug 12, 1948 Strawberry Canyon. Died Aug 20. Had type.
Testes 2 mm.1185 ♂ Zapus princeps 43 x 6143 x 69 x 24.5 x 12 9.0
2Born July 6, ^{in captivity} died August 22. Mother from Sweetwater Mtns., Mono Co.,
testes 4 mm

JOURNAL

July 4 Berkeley - When swimming the water skimmer make long alternate strokes with the back feet and also with the front feet when on the surface, but I'm not sure whether he uses the front feet when under water; he may fold them back along his

sides. He does use them when turning or when pushing off the bottom. The tail oscillates rapidly laterally but probably resulting from the movement of the hind feet rather than from any primary propulsive movements. He moves at least as rapidly under water as above. When turned surface swimming along the edge of the Hildebrand fish pond he made 2 ft. per second (≈ 1.3 m.p.h.). all observers agreed, however, that when startled he went much faster - probably twice as fast. A silvery film of air is trapped when he dives, and he usually ^{dry his fur} emerges quite dry. One was dumped from a jar into the aquarium for photographing and came up soaked. He climbed ashore and proceeded to scratch and dress his fur. In two minutes he was about half dry and despite numerous short swims he dried even more in the next few minutes. The same (and other) shrews when raised into the water don't get nearly as wet. This suggests muscular control of the hair to prevent wetting. Try cutting nerves on one side. Warm water might wet more than cold also.

Longest dive so far is about 2 seconds - fairly long apnea for such a little type. They can jump at least their own body length out of water.

1948
Pearson

15

Aug 23 Left 9:30 am. with Jennifer Worman, aunts Pearson, and Katherine Fligg for Calaveras Dam (Calaveras Co.). Arrived dam 11:30. Hot and sunny, water level of reservoir low. Mr. Macarthy let us into the large (20 ft. diam $\pm$) concrete inspection tunnel and the smaller pipe tunnel ~~on the~~ both of which run into dam. Much grass near entrance of larger but no bats seen in either. Also much grass in the tunnel where the pipe enters hill ~~below~~ $\frac{1}{4}$ mile below dam, but no bats in first 100 yds of this tunnel. Many droppings around edge of tile-roofed aerating bldg., but saw only one bat under the tiles, probably Myotis, but couldn't poke it out. Macarthy makes weekly inspections in the first two tunnels and doesn't see bats there ordinarily. He does see them flying around the mouth of the tunnel "about 7 or 8 o'clock."

Saw a doe and large fawn in the swampy place below the dam, and occasional ground squirrels along road between Milpitas and the dam. also " at the dam.

Stopped at 3 wooden bridges and a few abandoned houses on way home, but no bats. Home 5 p.m.

PEARSON, O.P.
Santa Cruz Island
August - September 1948

Catalogue nos. 1186 - 1301
JOURNAL
Species Accounts
Mammals

CATALOGUE

Prunder's Harbor, Santa Cruz Island, Santa Barbara Co., Calif
 Aug 29

- 1186 Corynorhinus rofinisgrui $99 \times 49 \times 11 \times 37 \times 31$ 10.0g
 Shot 10 p.m. in abandoned house. Nipple tiny. U.G. shot away.
- 1187 ♂ Peromyscus maniculatus santacruzae $172 \times 82 \times 21 \times 19 \times 15$ 19.5g
 Under doorstep 9-10 p.m. d.s.t. Testes 11mm.
- 1188 ♀ Peromyscus maniculatus santacruzae $177 \times 84 \times 22 \times 18 \times 15$ 26.7g
 Under doorstep 9-10 p.m. d.s.t. Lactating. Not preg. Stomach very full.
- 1189 ♀ Peromyscus maniculatus santacruzae $168 \times 80 \times 19.5 \times 17 \times 15$ 17.5g
 Slight mammary development. 5 embryos left horn, 1 resorbing right horn. Healthy ovaries about 7mm C.R.

Aug 30

1190 Lizard

In mouse trap $\frac{1}{2}$ mile W. of Prunder's Harbor. In oak canyon under rocky outcrops.

1948

Prisoner's Harbor, Santa Cruz Island, Santa Barbara Co., Calif.Aug. 30, 1948

- 1191 ♀ Peromyscus maniculatus santacruzae $176 \times 82 \times 20 \times 18 \times 15$ 23.7g
Thrust. No embryos. not testing. Stomach full
- 1192 ♂ Peromyscus maniculatus santacruzae $164 \times 82 \times 22 \times 17 \times 14$ 22.7g
Testes 12 mm
- 1193 ♂ Peromyscus maniculatus santacruzae $191 \times 93 \times 20.5 \times 19 \times 15$ 20.8g
Testes 12 mm.
- 1194 ♂ Peromyscus maniculatus santacruzae $185 \times 89 \times 22 \times 18 \times 15$ 27.0g.
Testes 12 mm
- 1195 ♂ Peromyscus maniculatus santacruzae $163 \times 81 \times 20 \times 19$ 24.4g.
most of back not prime. Testes 12 mm
- 1196 ♀ Peromyscus maniculatus santacruzae $178 \times 85 \times 21 \times 17$ 19.7g
embryos 3 left 1 rt, swelling 5 mm. One of left bumps smaller. H is not
prime ~~not~~ on neck and base of tail.
- 1197 ♂ Spilogale gracilis amphialus $420 \times 160 \times 37 \times 29$
Skeleton saved.
Topped overnight in canyon at edge of pebble beach $\frac{1}{2}$ mile west of
Prisoner's Harbor. Testes 14 mm. Stomach with arthropod remains. Fleas
- 1198 Hyla
- 1199 Hyla
- 1200 Hyla
- 1201 Hyla
- 1202 Hyla
- 1203 Hyla
- 1204 Gerrhonotus In stone foundation of shack on hill
- 1205 Sceloporus same place as 1190
- ~~1206~~

1948

Prusena Harbor, Santa Cruz Island, Santa Barbara Co., Calif.
Aug 31

- 1206 Corynorhinus rafinesquii 101 x 50 x 9 x 37 9.9 g.
 Shot 10 p.m. abandoned hen coop. Mippt to him. Uterus not large, Ovaries large.
- 1207 ♀ Peromyscus maniculatus santacruzae 197 x 90 x 21 x 18 x 16 34.8 g.
 Hind with large infundibular patches. Trace of mammary tissue. 5 fetuses 3 left = at 16 mm C-R
- 1208 ♂ Peromyscus maniculatus santacruzae 179 x 89 x 21 x 18 x 15 23.0 g.
 Hind pruned. Testes 12 mm
- 1209 ♂ Peromyscus maniculatus santacruzae 174 x 85 x 21 x 19.5 x 15 24.5 g.
 Hind pruned except neck + throat. Testes 11 mm.
- 1210 ♀ Peromyscus maniculatus santacruzae 169 x 84 x 20 x 18 x 15 26.3 g.
 Uterus large but no emb. Considerable mammary tissue
- 1211 ♀ Urocyon littoralis santacruzae 700 x 230 x 103 x 67 4 1/4 lbs.
 skeleton saved.
 at bottom of canyon 1/2 mi W. of Prusena Harbor on edge of stone beach. Same trap as Spilogale 1197 yesterday. Considerable fat. Trace of placental scar in left uterus. Stomach contained stems, ^{small} of some fruit, seeds
- 1212 ♀ Urocyon littoralis santacruzae 695 x 240 x 92 x 64 3 3/4 lbs.
 skeleton saved
 Stony beach at mouth of "river" at Prusena Harbor. Trace of uterine scars. Stomach contained acorns, grasshoppers, cotton, grass, and large arthropod remains such as Jerusalem cricket, about equal portions.
- 1213 ♂ Spilogale gracilis amphialus 395 x 112 x 45 x 31 1 1/4 lbs.
 1/4 mile north of Prusena Harbor in canyon bottom near 1197. Testes 13 mm. Considerable fat. Stomach contained no vertebrate remains (except skunk hair, skin + toenails)
- 1214 ♂ Spilogale gracilis amphialus 398 x 110 x 47 x 30 1 1/4 lbs.
 skeleton saved.
 mouth of "river" at Pris Harb. Testes 14 mm. Considerable fat. No vertebrate remains in stomach

1948

Prisoner's Harbor, Santa Cruz Island, Santa Barbara Co., Calif.September 1, 1948

1215 ♀ Corynorhinus rafinesquii 104 x 50 x 11 x 36 9.6 g
 Flying in
 Early evening with many others in abandoned house. Nipple sunbaked. U.G. as 1216

1216 ♀ Corynorhinus rafinesquii 105 x 51 x 11 x 37 9.1 g.

Location as in 1215. Nipple small. Rt. horn larger, no large foll. seen.

1217 ♂ Corynorhinus rafinesquii 102 x 47 x 10 x 35 7.5 g

Location as in 1215. Testis 4.5 mm, epidid slightly fragmented

1218 ♀ Urocyon littoralis santacruzae 660 x 227 x 98 x 64 3 1/2 lbs.
 Considerable fat. Skeleton saved.
 mouth of "river" at Prisoner Harbor. No embryos. Stomach with hair (possibly bait)

1219 ♀ Corynorhinus rafinesquii 101 x 49 x 11 x 36 7.8 g.

Location as in 1215. Caught 9 p.m. on Aug 31, killed 11 a.m. Sept. 1. Both horns about same size, ovaries large, no large follicles.

1220 ♀ Corynorhinus rafinesquii 104 x 53 x 11 x 37 8.9 g.

Location and death as in 1219. Rt. horn slightly longer. Ovaries large, no large foll. Nipple tiny

1221 ♀ Corynorhinus rafinesquii 100 x 48 x 11 x 36 7.9 g.

Capture etc. as in 1216. Nipple medium small, no large follicles seen

1222 ♀ Corynorhinus rafinesquii 105 x 51 x 11 x 38 8.7 g.

Capture etc. as in 1216. Nipple medium. Rt. horn stouter than left. No large follicles seen. Possible remains of corpora 51. No large or med. follicles or corpora. No sperm in uterus, some mites.

1948

31

Prisoner's Harbor, Santa Cruz Island, Santa Barbara Co., Calif.Sept. 1, 19481223 Corynorhinus rafinesquii 101 x 50 x 11 x 36 6.4 g.

cystine etc. - as in 1216. Nipple tiny, Uteri smaller than most, ut. horn longer, both ovaries large.

1224 Hyla

caught Aug. 31 beside house.

September 21225 ♂ Peromyscus maniculatus santacruzae 183 x 85 x 21 x 19 23.2 g.

along wall along "stream" bed near camp. Testis 12 mm, H. with a few dark patches dorsad.

1226 ♀ Corynorhinus rafinesquii 109 x 51 x 11 x 36 x 10.0 g.

Caught daytime in attic of abandoned house. Nipple smallish. Rt. horn of uterus stouter than left. no large follicles

1227 ♀ Corynorhinus rafinesquii 108 x 50 x 11 x 39 11.5 g.

caught as 1226. Nipple medium. Some mammary tissue, trace of milk expressible. Medium follicles in rt. ovary, small follicles in left.

1228 ♂ Corynorhinus rafinesquii 102 x 46 x 11 x 37 9.4 g.

Caught in house during day at Christy's Ranch, W. end of island. One other

♂ caught in same bldg - and one other Corynorhinus escaped. Testis scrotal, 9 mm, tip of epidid. black. Epidid. columnar, striated, without sperm. Testis with tremendous mitotic activity but no sperm, interstitial cells large + glandular but not abundant.1229 ♂ Corynorhinus rafinesquii 99 x 46 x 10 x 36 8.8 g.

as 1228. Testis scrotal, tip of epidid. pigmented, testis 8 mm. Sections as in 1228.

1230 Snake

Ridge pole of attic at Christy Ranch, W. end of Santa Cruz Island.

1231 Lizard

Beach at Christy Ranch, W. end of island



Prabhu

6.

1948

32

Prisoner's Harbor, Santa Cruz Island, Santa Barbara Co.,Calif., September 3

- 1232 ♀ Corynorhinus rafinesquii 108 x 53 x 11 x 38 9.0g
 In attic of "New Orleans" abandoned house at Prisoner's Harbor yesterday 10 a.m. Killed
 today 8:30 a.m. Nipple smallish. No large or ~~med~~ medium follicles. Rt. uterine
 slightly larger than left.
- 1233 ♂ Corynorhinus rafinesquii 101 x 50 x 11 x 38 7.1g.
 capture and death as 1232. Testes 4 mm, epidid not pigmented
- 1234 ♀ Corynorhinus rafinesquii 105 x 50 x 11 x 37 7.6g.
 capture and death as 1232. Nipple smallish. Small follicles only. Rt. uterine
 shorter than left. Ovaries same size
- 1235 ♀ Corynorhinus rafinesquii 110 x 55 x 11 x 37 8.9g.
 capture + death as 1232. Nipple smallish. No large or med. follicles, rt. uterine
 shorter than left.
- 1236 ♀ Corynorhinus rafinesquii 111 x 46 x 11 x 37 8.0g
 capture + death as 1232, nipple small. No large follicles, rt. uterine shorter.
- 1237 ♂ Spilogale gracilis amphialus 385 x 126 x 46 x 30 1lb.
 trapped in canyon half mile ~~so~~ west of Prisoner's Harbor. Fleas, considerable
 fat. Uterine scars 2 + 1. Stomach contained large arthropods and
 skunk foot

September 4

- 1238 ♂ Peromyscus maniculatus santacruzae 193 x 94 x 22 x 19 25.4
 Pine woods, 5½ mi. W. of Stanton Ranch Hdqrs, 1400 ft. Skull broken. Testis 12 mm
- 1239 ♂ Peromyscus maniculatus santacruzae 181 x 87 x 21 x 18 21.2g.
 location as 1238. Hip eaten. Testis 12 mm
- 1240 ♀ Antrozous pallidus pacificus 121 x 45 x 14 x 34 24.1g.
 attic of ~~main~~ wavery at Stanton Ranch Hdqrs. Nipple med., dark, no milk.
 Rt. ovary surrounded by clear fluid. Considerable fat

1948

33

Stanton Ranch, Santa Cruz Is., Santa Barbara Co., Calif.
Sept. 4, 1948

- 1241 Antrozous pallidus pacificus $\times \times 15 \times 31$ 19.2g
 Location as 1240. Nipple tiny. Both horns uterine same size, tip of each black.
- 1242 ♀ Antrozous pallidus pacificus $122 \times 49 \times 14 \times 32$ 21.8g
 Location as 1240. Nipple tiny. Rt. horn slightly longer than left, tips of both horns black.
- 1243 ♀ Antrozous pallidus pacificus $121 \times 43 \times 15 \times 31$ 24.5g.
 Location as 1240. Nipple medium. Rt. horn slightly longer than left
- 1244 ♀ Antrozous pallidus pacificus $113 \times 39 \times 14 \times 34$ 26.7g
 Nipple large, milk expressible. Location as 1240. Rt. uterus slightly longer than left,
- 1245 ♀ Antrozous pallidus pacificus $121 \times 45 \times 14 \times 32$ 23.3g
 Location as 1240. Nipple medium. Rt. uterus slightly larger. Tips of uteri slightly pigmented
- 1246 ♀ Antrozous pallidus pacificus $120 \times 44 \times 14 \times 32$ 23.6g
 Location as 1240. Nipple smallish. Uteri smallish, not conspicuously pigmented at tips.
- 1247 ♀ Antrozous pallidus pacificus $124 \times 48 \times 14 \times 31$ 22.6g
 Location as 1240. Nipple medium-small. No milk. No emb.

1948

Prisoner's Harbor, Santa Cruz Is., Santa Barbara Co., Calif.
September 5

- 1248 snake Caught 2 days ago, Prisoner's Harbor.
- 1249 ♂ Peromyscus maniculatus santacruzae 172 x 85 x 21 x 19 20.0g.
 Mouth of "river" at Prisoner's Harbor. Testis 11 mm.
- 1250 ♂ Myotis californicus caurinus 84 x 39 x 7 x 13 3.8g
 Penis red. Under trim of clapboard house at Prisoner's Harbor. Testis 5 mm. Epidid dark.
- 1251 ♂ Myotis californicus caurinus 78 x 37 x 7 x 13 3.8g.
 Penis red. Location as 1250. Testis 5 1/2 mm, epidid dark.
- 1252 ♂ Myotis californicus caurinus
 Penis red. Location as 1250. Testis 5 mm. Epidid. dark.
- 1253 ♂ Myotis californicus caurinus 82 x 40 x 7 x 14 3.6g.
 Location as 1250. Testis 5 mm. Epidid pigmented.
- 1254 ♂ Myotis californicus caurinus 83 x 37 x 7 x 14 3.4g.
 Location as 1250. Penis reddish. Testis 6 mm. Epidid dark.
- 1255 ♀ Myotis californicus caurinus 83 x 34 x 7 x 13 3.9g
 Location as 1250. Nipple tiny. Rt horn interna much larger than left. Ovaries tiny.
- 1256 ♂ Myotis californicus caurinus 79 x 38 x 7 x 13 3.7g.
 Location as 1250. Testis 6 mm. Epidid dark.

September 6

- 1257 ♂ Myotis californicus caurinus 80 x 39 x 7 x 12 4.2g
 House at Prisoner's Harbor. Testis 5 1/2 mm. Epidid. black.
- 1258 ♂ Myotis californicus caurinus 83 x 41 x 7.5 x 13.5 3.7g.
 House at Prisoner's Harbor. Hd prime. Testis 5 1/2 mm. Epidid black
- 1259 ♂ Peromyscus maniculatus santacruzae 165 x 87 x 22 x 19 20.2g
 Testis 8 mm. Mouth of "river" at Prisoner's Harbor

1948

Prisoner's Harbor, Santa Cruz Is., Santa Barbara Co., Calif. 35Sept. 7.

- 1260 ♂ Peromyscus maniculatus santacruzae 171 x 83 x 21 x 19 23.1g.
mouth of "River" at Prisoner's Harbor. Testes 12 mm. Hide not pinned over shoulder.
- 1261 ♀ Peromyscus maniculatus santacruzae 178 x 90 x 21 x 18 25.5g.
^{considerable mammary tissue but no milk}
In Opuntia, 4 mi east P.H. 4 embryos 10 mm, 2 + 2, + 1 more resorbing in left horn.
- 1262 ♀ Peromyscus maniculatus santacruzae 173 x 80 x 20 x 17 19.7g.
In Opuntia, 4 mi east P.H. 4 Embryos, hump 6 mm. 2 + 2 left. No milk.
- 1263 ♂ Peromyscus maniculatus santacruzae [163] x [78] x 21 x 17 22.4g.
In typha - Scurpus at P.H. Testes 12 mm.
- 1264 ♀ Peromyscus maniculatus santacruzae 174 x 85 x 20 x 17 19.8g.
^{Hide not pinned on belly.}
In grass, 4 mi. E. of P.H. 4 embryos 12 mm CR. 3 left 1 rt. ~~160 x 84 x 21 x 18~~
- 1265 ♂ Peromyscus maniculatus santacruzae 160 x 84 x 21 x 18 22.6g.
In typha - scurpus at P.H. Testes 11 mm.
- 1266 ♂ Myotis californicus caurinus 81 x 39 x 7 x 13 3.8g
Wall of house at P.H. Penis pink. Testes 4 1/2 mm. Epidid dark.
- 1267 Lizard Prisoner's Harbor
- 1268 Frog 1/2 mile north of Stanton Ranch Hdqtrs
- 1269 " " " " "
- 1270 " " " " "

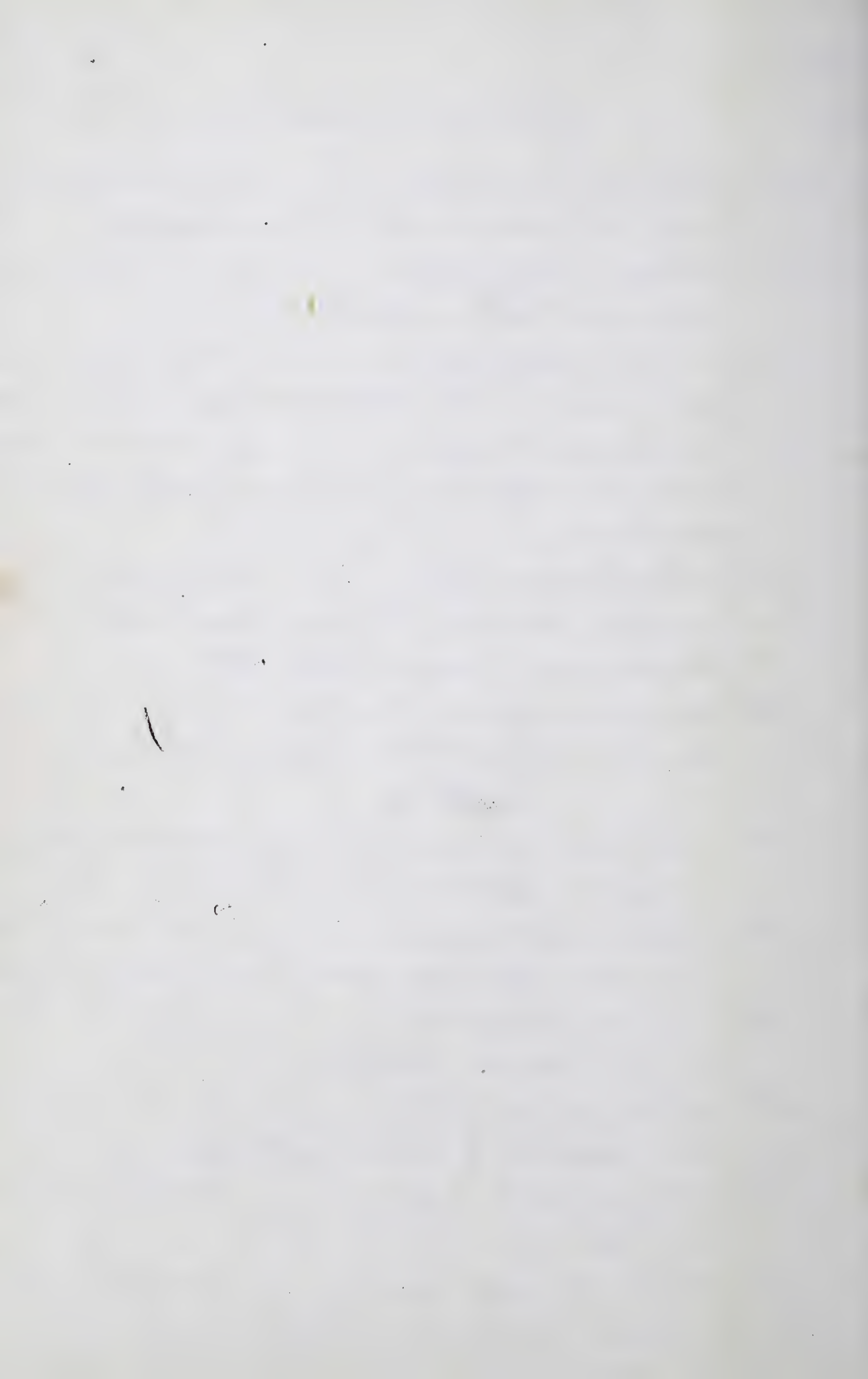
Sept. 8

- 1271 ♀ Peromyscus maniculatus santacruzae 172 x 81 x 20 x 18 29.7g.
Feed room at Stanton Ranch Hdqtrs. 4 embryos, 21 mm., 3 rt. 1 left.
- 1272 ♂ Peromyscus maniculatus santacruzae 175 x 87 x 21 x 18 28.0g.
along stream N. of Ranch Hdqtrs. Testes 12 mm. Hide / prime skipt one patch on ^{belly}
- 1273 ♂ Peromyscus maniculatus santacruzae 176 x 83 x 21 x 18 24.8g.
along stream N. of Ranch Hdqtrs. Testes 12 mm.
- 1274 ♀ Peromyscus maniculatus santacruzae 188 x 93 x 22 x 18 30.4g.
along stream N. of Ranch Hdqtrs. 4 embryos, 10 mm, 3 rt. 1 left.
Hide / prime skipt patch on neck.

1948

Santa Cruz Island, Santa Barbara Co., Calif.

- 1275 ♂ Antrozous pallidus pacificus 118 x 44 x 14 x 31 23.6g.
In attic of Winery, Stanton Ranch Hdqrs. Testes 4 mm. Epidid black.
- 1276 ♂ Antrozous pallidus pacificus 115 x 43 x 13.5 x 31 20.0g.
Location as 1275. Testes 4 mm. Epidid black.
- 1277 ♀ Antrozous pallidus pacificus 126 x 43 x 14 x 33 25.9g
Location as above. Rt. uterine stouter than left, and longer. No emb. no milk.
- 1278 ♀ Antrozous pallidus pacificus 128 x 48 x 15 x 32 26.5g
Location as above. Nipples median. Rt. horn uterine stouter than left. no milk.
No large follicles seen.
- 1279 Spermophile gracilis amphialus 412 x 122 x 48 x 31 1 $\frac{3}{8}$ lbs.
In mixed at Ranch Hdqrs. Testes 13 mm. Stomach contained large
arthropods, grapes, 1 mouse. Rt. uterine stouter
- 1280 Peromyscus maniculatus santacruzae 171 x 79 x 19 x 18 24.6g
Along stream below Ranch Hdqrs; Hildprins. Testes 11 mm
- Sept. 9
- 1281 Peromyscus maniculatus santacruzae 183 x 89 x 21 x 18 25.1g
In swamp at P.H. testes 12 mm. [nocturnally at "river" mouth]
- 1282 Antrozous pallidus pacificus 121 x 47 x 14 x 32 26.0g
In Winery at Ranch Hdqrs. Caught yesterday. No emb., no milk, ovaries small.
- 1283 ♂ Antrozous pallidus pacificus 120 x 46 x 13 x 31 21.8g.
as above (1282). Testes 9 mm, epidid black.
- 1284 ♀ Antrozous pallidus pacificus 128 x 48 x 15 x 30 24.5g
as 1282. Nipples smallest. Rt. horn uterine larger than left.
- 1285 ♂ Antrozous pallidus pacificus 120 x 45 x 13 x 30 22.5g
as 1282. testes 11 mm. Epidid black.
- 1286 ♂ Myotis californicus californicus 81 x 36 x 8 x 13 4.2g
In wall of house at Puerco Harbor. Testes 6 mm.



1948

1/4 mi S. Prisoner's Harbor, Santa Cruz Is., Santa Barbara Co. 37Calif., Sept. 10

- 1287 ♂ Peromyscus maniculatus santacruzae 187 x 92 x 21 x 18 26.0g
canyon on east side of valley 1/4 mile south of Prisoner's Harbor,
testes 13 mm., hydroperine
- 1288 ♂ Peromyscus maniculatus santacruzae 188 x 93 x 21 x 19 26.9g
Location as 1287. testes 12 mm. Hydroperine
- 1289 ♂ Peromyscus maniculatus santacruzae 171 x 85 x 21 x 18 24.4g
Location as 1287. Testes 12 mm. Hydroperine
- 1290 ♂ Peromyscus maniculatus santacruzae 173 x 81 x 20 x 18 21.5g
Location as 1287. testes 12 mm Hydroperine
- 1291 ♂ Peromyscus maniculatus santacruzae 181 x 93 x 21 x 18 26.2g
Location as 1287. testes 12 mm.

Sept. 11

- 1292 ♀ Peromyscus maniculatus santacruzae 160 x 76 x 20 x 18 18.8g
Location as 1287. Immature. Uteri stout, vagina large, ovaries large and
vascular. Hide not pin over back but head skin white.
- 1293 ♂ Myotis californicus caurinus 74 x 36 x 6 x 13 3.0g.
Shot over beach last night at P. H. Testes not found (must have been tiny)
- 1294 ♀ Sperlogale gracilis amphialus 385 x 120 x 42 x 26 .8 lbs
1/2 mi South of Prisoner's Harbor, Fla. Stomach contained shrimp foot.
Uterine scars 3 at 2 left. No large follicles. 10 nipples (5 pr.)

Sept. 12

- 1295 ♀ Urocyon littoralis santacruzae 682 x 240 x 102 x 65 3 1/8 lbs.
1/2 mile ~~south~~ west of Prisoner's Harbor Coahuila. Uteri quite slender,
no scars. No large follicles. Stomach empty. Feces manzanita

Sept. 13

- 1296 ♂ Reithrodontomys megalotis santacruzae [76] x [10] x 17 x 14 7.5g.
Edge of scirpus + willow at P. H. Testes 5 mm.

PEARSON

1948

Prisoner's Harbor, Sta Cruz Is., Sta Barbara Co., Calif.

- 1297 ♀ Corynorhinus rafinesquii 107 x 52 x 10 x 36 10.1g.
 Nipple medium. In utero at Prisoner's Harbor. No large follicles seen. Rt. horn
 larger than left. In sections: no large or med. follicles, no corpora. no sperm in ut.
 Vagina thick, stratified, not cornified. Some polymorphs in lumen but no sperm.
- 1298 ♀ Corynorhinus rafinesquii 102 x 49 x 11 x 36 10.0g
 Location as 1297. Nipple smallish. no large or med. follicles or corpora. Cilia
 in cervical canal. numerous mites in
 uterus.
- 1299 ♀ Corynorhinus rafinesquii 99 x 47 x 11 x 37 10.3g
 Location as 1297. Nipple small. Rt. horn uterus much larger. No large follic.
 or corpora seen.
- 1300 ♀ Corynorhinus rafinesquii 105 x 53 x 11 x 37 10.3g.
 Location as 1297. Nipple smallish.
- Sept. 14
Minimum
- 1301 Pentherodontomys megalotis santacruzae 158 x 89 x 18 x 13 12.2g.
 Prisoner's Harbor in Scirpus + grass. Hippuris Testes 8mm.



JOURNAL



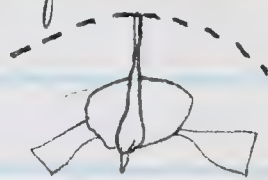
1948
Pearson

Journal

16

Aug 28
(Sat.)

Santa Cruz Island, Prisoner's Harbor, Santa Barbara Co.
Left Santa Barbara about 1 p.m. D.S.T. on the Blue Fin,
Beverly Alexander, Captain. Sea very calm. Saw
1 school porpoises, also seals? and sea lions.
Sharks astonishingly abundant: Pitelka estimated
5 per acre and 13 per acre over a stretch of
several miles (somewhat ~~lower~~ on the mainland
side of mid-channel). Some weighed well over
30 lbs, and I saw 2 that had been hooked
that were 4 to 5 feet long. The ones out in
the channel were "backing" with dorsal fin and
tail exposed. When swimming the
tail is not moved strictly laterally
but in a slight arc →



stern view

Landed at Prisoner's Harbor about 3 p.m. No
one in sight ~~in~~ around the pier or in the
buildings thereabout. Walked up the valley about
3 miles to the ranch buildings where we
found only a Chinese cook and one ranch hand.
The manager and 3 other men showed up later
and we cleared with them about staying
at Prisoner's Harbor in the house there.

First impression of Santa Cruz is of
a rather steep sloped island, misty-foggy
around summits, eroding rapidly, vegetation
principally live oaks, cactuses (cholla), coals, and
eucalyptus. Because of drought almost all

1948

17

the cattle have been moved off of Stanton's end (west) of the island. They have only a half-dozen cattle ^{(all} around the ranch buildings). There are some wild pigs and wild sheep. One smallish pig (maybe 40 lbs) lay dead along the road, appearing to have been shot. Numerous jays seen, as well as amer. eagle, ravens, doves, killdeer, house finch, Bewick wren, shrike, black phoebe, Rufous-crowned sparrow, lizards, and frogs calling after dark.

U.S.C. Marine Laboratory yacht lay off the pier when we returned (about 6:30) from the ranch buildings, and apparently is going to stay all night.

aug 29

The half-dozen traps around the house caught 4 *Peromyscus* all told. 1 juv., 1 pup, 1 lactating, and 1 adult male. Saw no bats flying but 2 in the abandoned "New Orleans" house. Shot one of them, a *Corynorhinus*, at 10 p.m.

Weather overcast till noon, then sunny. Put out about 90 Museum Specials baited with walnuts, mostly in rocky-*open* places and along an oak gully. also 6 steel traps for foxes. Saw flicker, sparrow hawk, pheasants?, hummingbird sp., wandering tattler, gr. blue heron. about 5 p.m. put about 30 museum specials along the flat, dusty bed at the mouth of the "river"; mostly along the edges which are matted up in places, rocky in others, and cut through shell strata in others. Very clearly defined mouse runways wind in places and across the dusty open places toward the pebble beach -- each toe clearly

1948

18

P. PEARSON

marked. Also small fox? tracks in this place, and pig.

It seems rather strange to wander over the hills here for several hours and see no sign of rabbits or ground squirrels or meadow mice, or gophers, and practically no sign of any ~~S~~ mice. One certainly can't blame the pigs for the scarcity of small mammals, for there is still lots of food and cover (and Heteromys lives in abundance amidst many peccaries). If Peromyscus is the only mouse, it should be interesting to investigate its abundance, is it more abundant here, without competitors, than elsewhere with?

Aug 30

Twelve Peromyscus in the traps (about 120). aside from the 6 put up there were 3 adult males, 2 imm. females, and 1 imm. male. also one Spilogale in jump trap at edge of ~~flat~~ stony beach at bottom of gully. Stomach contained arthropod remains looking like "beaks" of katydids, limbs + abdomen of Jerusalem cricket, and possibly small crab limbs. Also found some ^{chunks} droppings, not yet analyzed.

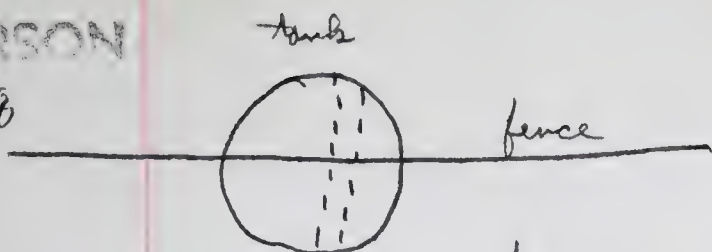
Biggest disappointment in the trap line was not the occurrence of only Peromyscus, but the abundance of ants. 90% of the traps were baitless in AM, mostly on account of very tiny ants.

Captured 9 peppers (Hyla) in the circular stock tanks last night, and one in the marshy overflow from it. Noticed that bats were drinking from it so tonight strung 2 no. 26 wires across it 1/2 foot apart and about 1 1/2 inches above the water (tanks 6" diameter). Out of



1948

19



perhaps a hundred "drinks," only 5 touched the mines: 2 of these flew on and 3 splashed the water, but none ~~stayed~~ were trapped in the water for even a half-~~fraction~~ of a second.

Left out same traps plus 5 more steel traps for foxes, these at the mouth of the "river" where there are numerous small fox tracks.

Weather clear and sunny all day - a navy PT boat discharged 5 people in civies in morning and they drove inland in the navy jeep for several hours. Returned in mid-afternoon and left on the PT to return next week. Offered us the use of the jeep anytime.

Aug 31.

Despite not rebaiting many of the traps caught 11 Peros. aside from those not put up ~~1 through~~ ^{1 through} out 3 males and 2 females. Steel traps did better with 2 foxes and ~~2 other~~ 2 skunks. The latter, although only about 4 pounds, seem to be adults, judging from the reproductive tracts. Their tracks are so dainty they would be dwarfed by ^{those of} an eastern red fox only a month or so old. Both these were females, but the captain of the Santa Cruz says the males are only a little bit larger. He also mentions large colonies of bats up in the ranch buildings. Bats "of two kinds" a large "pel one" and another.

Picked up a considerable part of the mouse trap haul because of skinning activities didn't rebait all of the remainder - or all of the steel traps.

For bat hunt see *Corynorhinus*

P. PEARSON
1948

Sept 1, Yesterday and this morning there has been a decided pre-dawn or crack of dawn bat flight around the houses. One more ripen in the traps - no bigger than the others. Spent day skinning her and fox, as well as finishing yesterday's skulls + skeletons.

Took jeep up to radio station about 6¹/₂ miles east. Located on top of steep southern ~~cliff~~ slope. Country between here and there mostly ~~grass~~ grassland, but some cactus (Opuntia), oak, manzanita etc. Very dry. No signs of mammals, but must trap some of the grassy hills to see if Peromyscus can cope with them. The hilltops are hot, even when it is cool (but sunny) down here. Pitelka found the same thing this morning.

Four businessmen - yachters stopped in for water this morning. They have been stopping at various north-shore coves and mention not valleys with pools of water deep enough for swimming, and with ferns as high as your head (they may have seen all this in earlier years). They admit that things look dry now. They are particularly enthusiastic about Painted Cave - a long sea tunnel running back into the island 250 yards, containing seals and maybe bats. They weren't quite sure of the latter.

From the radio station the south of the steep hills at the eastern end of the island ~~area~~ is quite reddish and looks ~~so~~ ^{much} more barren than here. To the west

1948

the island looks large and very mountainous, hardly seeming to have flat space enough for a landing strip.
 Sept 2 went jeeping to the west end of the island (Christy's Ranch) and airport. again noted how it is really hot and seemingly even drier up in the hills. Saw one rather extensive stand of pine on a north slope just as you drop down toward the airport. Many seedlings, floor rather dry and open. General terrain not greatly different than rest of island that we have seen: oaks, oaks, opuntia, manzanita, boccharis, mtn. mahogany.

Interesting group of buildings at Christy Ranch: barn, hen coops, adobe dwellings, etc. A couple of *Corynorhinus* in one bldg., and a snake on the ridgepole of other over hen coops. Nice sandy beach below Christy Ranch with foot tracks. Took following photos:
 Super xx #8 - pine ~~ridge~~ slope, looking east. Slope on left (south facing) with no pines, mostly grass + opuntia (overexposed)
 #9 - pine slope + opposite slope looking east (from further away).
 #10 - north side of ~~central~~ valley going down to Christy. Opuntia and Boccharis in foreground
 #11 - Ptilos in jeep.
 #12 - North side of central valley ~~in way~~ between main ranch and the divide to Christy, looking west. Manzanita in foreground.

~~For~~ Cut film - same as above.

Traps overnight caught one Peru, but not many set and baited.

2160
640

4

1948

Ranch hand named Sonny and another dropped in after supper. according to Sonny (age 25, been here since 1938) there were as many as 20,000 sheep on Stanton's property. Most of them were shot during the war. He, his father, Stanton, and a friend, shot 600 in one afternoon. They must do it on a big scale because we saw nearly 8000 rounds of .218 Bee ammunition at the Christy Ranch just sitting out on the table in the abandoned house (= \$640). They shipped off the cattle last winter on account of drought - just before the rains finally came. Sonny says that in the misery there ~~are~~ is another kind of bat than *Corynorhinus* - bigger and paler [*Antrozous*?]. Also, a skunk-sized animal that smells as bad as or worse than a skunk but pale brown. He says no rats, lots of "field mice" around the buildings. Also feral cats. They hunt pigs at night with dogs & killed one sow tonight, a boar and 2 young got away. Says Indians lived on the island, and we have found several human skeletons in the shell heap at the mouth of the "river".

Sept. 3 One more skunk in the traps. Spent the morning skinning yesterday's bats, skunk in the p.m., and getting ready to go up to the pine forest for the night* to set out a line of traps there.

The pines cover one whole side of a ridge (north face) just over the divide from the main road to the airport. mostly 8" to 1' in diameter, but lots of seedlings. Floor mostly open but a few shrubs scattered through (mostly *coarctatus*). *Mangrovia* in bloom and in fruit around the

* called it
even cut.

1948

upper margin of the pines. Good needle litter on the floor, even moist in some places, but no tunnels in it and no invertebrates seen while rolling logs, scratching for tunnels etc during trap-setting. Numerous spiders seen while jack-lighting, but nothing else. Jays very numerous and fearless in the pines. Elevation must be about 1200 ft.

after sunset it was quite windy (warm breeze from north) upon the bare top of the ridge, but no wind in the pines. Considerable dew fell late in the night and at dawn the Christy Ranch valley was well-filled with fog-banks - a fog that must have covered most of the pines, although not the uppermost.

Sept. 4

70 museum specialists in the pines caught 3 *Peromyscus*: one immature, one adult with smashed skull, and one adult with back end eaten away. Not as much ant trouble as elsewhere. Stopped at ranch on way home and got 9 *antrozous* out of the attic of the minery. There were several hundred others there as well. Also some fresh vegetables from the ranch garden.

In the evening talked with "Red" Crane, the ship captain and manager. He says Stanton brought in 20,000 ^{"Tame"} ewes one year, but had trouble with ravens attacking the lambs. Killed the ravens with thallium, also killed off most of the hogs with introduced hog cholera.

The ammunition we saw at Christy Ranch was just "odds & ends left over" from 100,000 rounds

1948

bought for killing sheep at a range of 50 to 400 yds. They undoubtedly shot tens of thousands sheep.

Spt 5
ending

at 6:15 a.m. d.st., shortly after dawn, saw a myotis going to roost in the wall of the house only 10 feet from my sleeping bag, and another a few minutes later, both went into the cracks between the trim around the windows and the clapboards. Later I removed 7 from such places around the house. No foxes or skunks, only 1 Pera, although not many traps set.

Pete, who has worked on the island for 47 yrs, says the island will support 2000 steers. This figure is probably for Stanton's end of it.

The gardner-mulkinan shot 5 sheep about $1\frac{1}{2}$ miles w of here this morning. We had the hindquarters of one for dinner. Slightly coarser than domestic leg of lamb, slightly gamier (not as lamby). No goats on the island.

Strung bat mice at dusk again across the stock tanks. No bats come early (perhaps I caught all the early fliers this a.m.)

Pete said water pipes freeze up during the winter at Ranch H dptre, but not at Presoiers Harbor or Christy's

Spt. 6

Two more myotis in our house. Both males. Set 14 museum specials in the typha and scirpus. If there are any shrews on the island, they should be there, for it is damp and hummy with lots of sambugs, beetles, and

P. PEARSON

1948

even a few shags. No definite shem signs however.

Patelko visited the sheep killed yesterday. ~~He~~ saw signs of their being devoured by ravens, bald eagles, and wild hogs. He even saw two hogs.

Went up near the radio station (unoccupied) to set traps in ~~near~~ the late afternoon. Put out 100 museum specials around opuntia islands in the grass, across a meadow swale (not wet), ~~and~~ in open grass, and up a grassy gulch. Cool and foggy at dark. also 2 fox traps in trail on edge of oak park.

Sept 7

Rain and foggy in a.m. Peromyscus in each of the places mentioned above, most of all in swamp (14 traps) and around opuntia. 15 Pero all told (114 traps). No foxes. all young Peros in breeding condition, both ♂ and ♀.

Mary returned today and will be back tomorrow for a short stay. Probably means no jeep for us after tomorrow. Picked up the fox traps on the ridge and in the canyons west of camp.

Put 100 traps around the barn, feed house etc. at the Stanton Ranch Hdqrs, as well as along the stream below the ranch. The latter in an attempt for shems, but saw no holes or tunnels in the grassy-herbaceous - rocky stream border. also 3 fox traps in the vineyard and looked for bats in various of the ranch buildings.

So far haven't found any predators on Peromyscus. Fox + skunk stomachs + droppings are hairless and have seen no owls. Ranch hands say they have seen "monkey-faced" owls, but these can't be very

1948

26

abundant.

aside from the *Peromyscus* put up, there are 5 males and 4 females

Sept. 8 a dozen traps in barn, feed room, etc., caught 2 *Pero*. about 75 along the stream below the ranch caught 13 *Pero*, although something had taken the bait from all but a half dozen (possibly bottles that squeak when touched.) Since they were baited just before dark they must have had bait for the early part of the evening.

saw a single *Corynorhina* in the bottom floor of the mine (where *antrozous* lives above).

The extensive vineyard is overgrown by dill. The grapes are fed on by turkeys, cows, skunks, pheasants, and probably pigs & foxes. Caught a skunk in the vineyard.

aside from the *Peromyscus* put up, through out 8 ♂♂ and 3 ♀♀.

Small bats flying over the beach at the edge of the tyebe - scirpus.

Sept. 9 Only traps out were those in the swamp, the fox traps, and a handful of museum specials in special situations. caught only 2 *Peromyscus*. also 1 more *Myotis* in north of the house.

Spent morning skinning *Pero* and more *antrozous* from yesterday's catch. Put out a new trapline in afternoon of about 60 museum specials and 6 steel traps. The mus. spec. in 3 canyons on the east side of our valley, all are oak canyons with drobbles of water, but very

P. PEARSON

1948

little understorey. Close to the stream the ground is covered with oak leaves - thoroughly ground up with the snow by hooves (probably hogs and sheep). Saw 5 sheep in one of these canyons. A few green acorns are beginning to fall.

Sept 10 - 12 Peromyscus in the traps in the east canyon. No fox or skunk. Left that line out and put 6 steel traps in the canyon and along the beach between here and Pebean Bay. There is considerable mangrovia and canarotophylus and some phytinia on the slopes near the north shore. Near the mouth of the second really big canyon west of Prisoner's Harbor is a considerable area of tumbled large boulders with a few living pines and many dead ones. Very old trees of fire. The first really big canyon narrows into a very steep-walled chasm with in places the floor ~~south~~ scoured down to bed rock, numerous dry falls, and in 3 places deep rock basins full of water at the bottom of these falls. The water very dirty (from hogs & sheep?) and full of mosquito larvae and tadpoles.

Shot 1 Myotis flying over beach, same kind as in walls of house.

The "Mang" people stopped in today. They are all civilians from Rathen Corp. doing "wave propagation" tests (with cooperation of Mang. They left at

1948

1:30 p.m., to return Monday.

Sept. 11

Mouse traps up the valley caught 4 ♂♂ and 3 ♀♀ Peru: one ♀ put up. The new superfox line (6 traps) caught nothing. In fact, 2 of the traps had band near fox droppings within a yard of them. Caught another skunk up the valley. Picked up these 6 steel traps and put them in the forest looking canyon on the new line west of here, apparently ~~x~~ Peromyscus + bird carcasses aren't too effective as bait. May try apple tomorrow.

Several photos: Prisoner's Harbor from the west looking east; Opuntia island, grass, and ^{live} oak on the hill west of P.H. (Peru caught here); looking ~~west~~ ^{south} or ~~SW~~ ^{SW} showing mostly the east facing slope of our valley about a mile above P.H.; Prisoner's Harbor from west-facing slope ~~about~~ the valley ~~west~~ ^{south} of P.H.; Me and utility truck + skunk; Frank and truck and Jay.

Saw some sort of a fire on a steep north slope about 5 miles east of P.H. It seemed not to have spread 2 hrs later. Radio people say there is a hot sulfur spring ~~on the~~ near the northeast coast.

Sept. 12 - One more fox (in a flicker-baited trap), but again a female. Rebaited all steel traps with apple. Also put out more museum specials in the scirpus-typha.

Went riding in the jeep this morning to the pine forest on the ~~the~~ Ranch - Christy divide, thence down a very dry and barren valley to Laguna. Picture of bare red-sanded ridge along the south ridge road, looking west. Also 2 photos of manzanita - scrub oak - adenostoma + coconathus.

P. PEARSON

1948

jungle.

Talks with Red Crane and perusal of ranch records reveals that the winter of 1940-41 was a very wet one with 56 inches, whereas last winter was very dry with only about 10 inches, 4 of it early in the fall and then practically no more until March. Low temps. reach about 27° altitude of the dry lake and spring from which several *Peromyscus* came last Monday is 1200 ft.

about 3 p.m. drove up to the radar station for gas. although cool and misty here, it was extremely hot and sunny up there with a stiff, dusty, dry wind.

The "fire" I saw yesterday was what the ranch hands refer to as their "volcano" - a fissure out of which steam (or smoke) escapes.

Heard a barracuda this p.m. - perhaps the most important *Peromyscus* predator.

Stanton's end of the island covers about 54,000 acres.

Bat-hunting at dusk up the valley among the oaks where the stream crosses the road.

Lots of moths, but caught only a few quick glimpses of bats.

Sept. 13 - Nothing in the steel traps. Saw two runs west of here, and a sow with 4 spotted young.

The mouse line in the *Scarpus* caught 4 ♂♂ and 1 ♀ *Peromyscus* and, praise be, one *Reithrodontomys*. Too bad it waited until the last minute (almost) to be caught. Will

P. PEARSON

1948

Plaster the place with traps tonight.

Caught more *Corynorhinus* in the attic of the New Orleans bldg. Put up 4 more of them, all ♀♀.

Weather foggy or misty - bright all day.

Sept. 14 The 120 walnut-baited museum specks set in and around the Scurfens - Tylobo marsh caught 1 more *Reithro* but no *Pero*. Would have expected at least a half dozen *Pero*, and would not have been surprised at a dozen. Moon almost full. The *Reithro* was in a ~~gl~~ grassy tongue projecting into the Scurfens. Skinned it while out on the pier waiting for our boat. Because of fog, however, boat didn't arrive until 4 p.m. Reached Santa Barbara by way of Hueneme at 9 p.m. ^{Close look at several striped porpoises in mid-channel}

Sept 15 Visited Santa Barbara Museum of Natural History from 8-10 a.m. Shown around by Mr. Abbot and Coggeshall.

They have some foxes from Santa Cruz as follows: listed below under fox species acct.

SPECIES ACCOUNTS

1948

Myotis calif.

- Sept. 1 - a large small bat flew ^{about the yard around} ~~off~~ the house, ^{several times} very early this evening, long before dusk. Others have been seen watching but none collected yet.
- Sept 2 - one *Myotis*? flew around ^{inside} the house for about half a minute at 6:30 a.m. d.s.t., then disappeared. It was quite light outside.
- Sept 4 - Noticed two going to roost at 6:15 a.m. d.s.t. in our house at Princess Harbor. after several zooms they landed and slipped into the cracks between the clapboards and the trim around doors and windows. Went around the house later and removed 7 from such locations, all on the south or west side of the house. 6 males and 1 female.
- Sept 6 2 more ♂♂ in same situations
- Sept 7 1 more ♂ " " "
- Sept 8 several *Myotis*? flying over beach at "river" mouth.
- Sept 9 One more ♂ in house as above.
- Sept 10 Didn't look in house but shot one flying low over beach, same place as seen on last 3 evenings.

1948

Corynorhinus

Aug 29. Have gotten two so far, both at about 10 p.m. in abandoned houses; both at places where they had not been earlier in the evening. They come to water at the stock tank later than ~~the~~ ~~other~~ some other species, (probably Myotis). Corynorhinus flight is more butterfly-like than others.

Last night found about 20[±] flying about in the abandoned "New Orleans" house where one had been shot at 10 p.m. two nights before. This was about 8 p.m., a time when some were yet flying outdoors. Herded 10 of them into an escape-proof room and downed them all (with Piteh's help) by swinging a pair of pants and a trap bag at them. All females except some young males. Have not yet ~~seen~~ found any in this building in the daytime, although they probably live there somewhere.

Tonight at 8 p.m. a dozen or so were flying in the same place. Wanted to get about 2 adults for tomorrow's skinning. The first two downed were young ones, so released them outside the room. At least 1 of the next 3 is young, but have kept them (alive) to skin tomorrow.

Sept 2 Got up into the attic of the "New Orleans" house by way of the dormer window, 10 a.m. Some squeaking inside, and about 200[±] Corynorhinus in 3 or more clusters in different parts of the attic. Picked down a dozen or so but could find no other species. Released 5 at our house and 2 of them flew directly (100 ft.) into the dormer

1948

undown and one into a dermataria undown. The others
not seen to appear on the side of the house where I was watching.
One of the females had a trace of mammary tissue and a
little milk could be expressed.

In the afternoon caught 2 males in an abandoned
house at Christy Ranch. One other escaped (σ^7). Testes
about 9 mm (see ~~notes~~ catalogue).

Sept 8. - Saw 1 in the lower floor of the winery (Antrozom
in the attic.

D. PEARSON
1948

Antrozous

Sept. 4 Several hundred live in the attic of the mine. Collected
9 of them - all females, some probably young, one
was still lactating.

Sept. 7 More Antrozous from the mine 2 males (probably young)
among them.

D. PEARSON

1948

Reithrodontomys

Sept. 13

Caught one on the edge of the swamp at Prisoner's Harbor,
mostly Scirpus, but some Typha. also willows. overnight.

Peromyscus

P. PEARSON

1948

- Aug 28 Two on the doorstep of the house at Pis. Harbor between 9:30 + 10 p.m. (D.S.T.), another slightly after 10, and still another later in the night.
- Aug 29 Of the above 4, one was a ♂ with large testes (11 mm, tubules not visible), one a preg female, not yet with adult pelage, one a lactating female, and one a juvenile not saved.
- Aug 30 Caught 12 in about 120 traps, but many baits stolen by ants. All traps were started in a.m., but not all in p.m. aside from those put up, then away 4 adult males, 2 imm ♀♀, and 1 imm ♂. Caught a juv. by hand near the house while Jacklighting.
- Aug 31 Have collected 2 so far with of tremendous size for a *Peromyscus maniculatus*, both with rather scarred tail and thin fur - perhaps old age and perhaps not.
- Sept 7 all adults have large testes or are pregnant
- Sept 7 a skunk today had a *Peromyscus* almost whole in its stomach
- Sept 11 Caught one weighing only 15 gms, yet in adult pelage, another weighing 18 gms (skin saved) was still in grey pelage, yet had large uterine horns, large vasculosa ovaries, etc.
- Sept 12 Heard barn owl

1948

Fop

- Aug 28 - Saw no ^{fop} tracks in the dusty road from Prisoner's Harbor to Ranch (about 3 miles), although there were small hog or sheep tracks in several places. Ranch manager says collected here "about 10 yrs ago" and caught "lots of fops" but that there are very few now because of disease. He has seen one recently. Another man (the milker) has been on the island only a few months and has seen none.
- Aug 29 - Made 6 fop sets along pig-sheep trails, in gullies, and along pebble beach. All baited up high with carcasses. Not much sign of fops except small footprints in the dust at the flat mouth of the stream-bed at Prisoner's Harbor.
- Aug 31 - Two in steel traps, both on stony beach (one in same trap as skunk last night.) Both females, both surprisingly small and delicate. U.S. looks adult, however, and boat captain says the big males are little larger. Heard one bark just at daybreak, sounds very much like silver fox (an inhaled yelp). Urine smell also very similar to silver fox. Neither had any vertebrate remains in stomach - just fruits and arthropods (+ grass + cotton), (*Conarostaphylis* + *manzanita* series).
- Sept. 1 - Another when in steel traps near mouth of "river" at Prisoner's Harbor. In good flesh but even smaller than yesterday. Mouse hairs in stomach, but maybe bait.
- Sept 2 - One of the fruits in the fop droppings is possibly a red-bellied *Photinia*. The stems of this *Photinia* were seen in a skunk stomach too [= *Conarostaphylis diversifolia*].

1948

Sept 4 - see Hog Sept. 4

Sept. 10 Found some droppings today containing sheep wool. Most, however, continue to contain predominantly large arthropods and mangrove fruits. Did find one with mouse hair, and some with *Conometaphysus*.

Sept 12 the ~~juv~~ pup female caught today had an empty stomach, but almost pure mangrove in the feces. Droppings passed up today were primarily mangrove, but a couple had sheep wool and one had feathers.

Sept 14 Santa Barbara museum has 2 fopes from Santa Cruz:

♀ March 24 1936 3 embryos 697 x 249 x 117 x 60

♀ " " " " " 678 x 246 x 97 x 58

also 3 from San Nicolas labeled V. l. dickeyi.

♂ 792 x 285 x 111

♂ 770 x 285 x 110 x 59 wt. 4 lbs.

♂ 780 x 300 x 111 x 60

these San Nicolas specimens are paler than santacruzensis (not as much rufous or black)



1948

Spilogale

- Aug 30 One in steel trap baited with mouse carcass. Bottom of steep canyon on edge of stony beach. Shot him with .22 from distance but some odor in evidence, Testes 12 mm. Flesh. Stomach with arthropod remains
- Aug 31 Two in steel traps. One squirmed nicely while I was maneuvering him into position for the coup de grace. Instead of ~~a~~ a "spray" of scent as I had expected he squirts a few ~~drops~~ rather large drops a distance of about 6 feet. The fresh strong smell reminds me of very strong raw onions (at first sniff). Both in good flesh, neither with any vertebrate remains in stomach, one with stems of the red-berried Photinia? [Comarostaphylis]
- Sept. 2 One found dead at Christy Ranch. Too rotten for skin, not rotten enough for skull
- Sept 8 - One caught in the vineyard had grapes, large arthropods, and a mouse in the stomach,

P. PEARSON

1948

Cat.

Sept. 7, Earl and Red scoured one up on the south side of the island, and Jimmy says one lives in a pile of eucalyptus logs up the valley a short way from here.

1948

Hog

- Aug 20 Numerous tracks and a few droppings along the dusty road from Preserver's Harbor to Ranch. also one dead bear in the road, apparently shot. ~~the~~ one ranch hand (the milker, says they are shot whenever possible.)
- Aug 29 Numerous footprints and droppings, the latter consisting almost entirely of acorns.
- Sept 2 Saw one in grass- oak west of main ranch bldg. Ranch hands ~~kill~~ hunt them with dogs at night, apparently making kills frequently. a sow killed by them tonight had young with her.
- Sept 3 Went up to look at the sow they shot. Quite good sized, perhaps 70-100 lbs. One young black + white piglet was hiding under her stern when I walked up, but scampered off when I approached to about 10 yards. It weighed ~~about~~ 3 lbs. or so. The mother had a distinct wave of bristles. Her stomach contained about half by volume prints of opuntia; also acorn or Photinia? prints, etc. Had a bit of the ham for lunch. → Manzanita
- Sept 4 "Red" Crane, the ship captain and ranch manager? says when foxes are abundant he has seen as many as 100 in a day. They never bother the lambs or chickens. He was told that they run in 7-yr. cycles, and it is his opinion that they are just recovering from the depths.
- Sept. 13 Saw a sow and 4 black-and-white young.



1948

Sheep

Sept. 9. Saw 5 in a side canyon of our valley (Pis. Harb). They let me get to within about 100 yds of them (they were in a steep canyon under oaks) then ran off uphill.

The ranch hands say there are still about 2000 "wild" sheep in the northwest part of the island. They claim they have killed about 20,000.

Sept 12 Saw a family of 4 resting under a large oak in early afternoon. They let me come within 35 yards of them, ran off a little way, then stared at me, one of the ewes Hskkh-ing at me several times. There was a ram, 2 ewes, and a large lamb.

Sept 13 Saw a pair of rams. The sheep seem to nap in the shade of big dense oaks during the hot part of the day.

PEARSON, O.P.

Miscellaneous and local, including
Marin, Lake, Mono, Madera, Shasta,
Tuolumne, Siskiyou, Colusa, Napa,
Contra Costa, and Alameda counties
September 1948 - August 1949

Catalogue nos. 1302 - 1619
Journal

Catalogue

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Cal.

Sept. 30, 1948

1302 ♀ Corynorhinus rafinesquii intermedius 117 x 57 x 11 x 38 8.3 g

caught in basement of house in afternoon. Killed 5 p.m. Oct. 1.

Nipple smallish. Vagina not widely open. Under dissecting scope only small follicles, rt-horn larger, pigment on mesometrial side of upper end of each horn. no fat. In sections: interstitial tissue not as developed as in some, ovary vascular, oviduct resting. No large or med. follicles. Some mitoses in uterine lumen with many polymorphs, but no sperm. Glands look secretory.

1303 ♀ Corynorhinus rafinesquii intermedius 99 x 50 x 10 x 38 8.8 g.

caught as 1302. Nipple tiny. Horns almost same size. Pigmented patch in ligament at tip of each. Ovaries with small follicles, no fat. Slightly more advanced than 1302, but no large or medium follicles. Vagina thick stratified but not cornified. Uterus with numerous polymorphs in lumen but no sperm.

1948

- 1304 ♂ Corynorhinus rafinesquii intermedius 108 x 52 x 10 x 37 7.0 g

Caught and killed same date ^{etc} as 1302, Testes 5 mm, only the ^{caudal} tip segmented, tubules not visible under dissecting scope. No fat. In testis: epidid. with columnar ciliated epithelium, no sperm. In testis: intense mitotic activity (spermatogonia), but no sperm. Interstitial tissue fairly abundant, stains slightly pink.

- 1305 ♂ Corynorhinus rafinesquii intermedius 103 x 50 x 11 x 37 8.2 g.

Location as 1302, Caught + killed Oct. 1, testes 6 mm, tip of epidid. black, no tubules visible even under dissecting scope. No fat. Epidid. with columnar ciliated epithelium, no sperm. Testis resting, practically no mitoses, no sperm. Interstitial tissue fairly abundant.

+1306

Lucerne, 1330 ft. Lake Co., Calif.

- 1306 Myotis thysanodes thysanodes 98 x 45 x 10 x 20 8.0 g.

Caught in tunnel, Had been banded 46-26886 MK. Much fat. Nipple medium, ovaries much smaller than Cory., medium follicles numerous in rt. + left ov., rt. horn much stouter than left. trace of pigment in ligament running posterolaterally from tip of each uterine horn (as in Corynorhinus). Caught evening Sept. 30, killed evening Oct. 1, age not certain when banded in 1947.

- 1307 Myotis thysanodes thysanodes 89 x 38 x 10 x 19 6.9 g.

caught + killed as 1306. Nipple tiny. Much fat. Ovaries much smaller than in Cory, contain a few small-medium follicles but not as many as 1306. Uteri very small, rt. horn possibly bigger than left, pigmented ligament very prominent on both sides. Banded MK. 46-26881 was immature when banded Sept. 24, 1947.

- 1308 ♂ Myotis lucifugus carissimus 85 x 35 x 11 x 14 5.4 g.

accessories large + turgid. Testes 4 mm. Tail of epidid. large + dark. Not much fat.

- 1309 ♂ Myotis yumanensis saturatus 80 x 35 x 10 x 13 4.7 g.

accessories large + turgid. Testes 5 mm., epidid. large + dark. Not fat.

- 1310 ♀ Myotis yumanensis saturatus 84 x 36 x 10 x 14 5.3 g.

no large follicles. Both horns about same size. Dark ligaments on both sides, not fat.

PEARSON

1948

1311 ♀ Myotis lucifugus carissima 89 x 36 x 10 x 16 7.6g.

nipple small. Ovaries + ut. about as in thysanodes but no pigmented ligament. No large follicles seen. Rt. ^{uterus} ~~ovary~~ much larger than left. Considerable fat.

1 mi NE Sulphur Bank Mine, 10 SE Lucerne, ^{1500 ft.} Lake Co., Calif.

Caught Sept. 30 afternoon, killed Oct 2 8:30 a.m.

1312 ♀ Myotis yumanensis saturatus 86 x 39 x 10 x 15 4.3g

nipple tiny. Rt. horn slightly larger than left. No large follicles seen. Caught in house

1313 ♂ Myotis yumanensis saturatus 81 x 39 x 10 x 14 3.6g.

testis 5 mm, epidid/pigmented. Ovaries large + crystalline

1314 ♀ Myotis yumanensis saturatus 80 x 38 x 10 x 14 4.9g

Fat. Ovaries tiny. Rt. horn larger than left.

1315 ♂ Myotis yuma no skin no skull

testis 3 1/2 mm, epidid pigmented. (not testis smaller than 1313 etc.)

caught Oct. 1, killed Oct. 2.

1316 ♂ Eptesicus fuscus bernardinus 121 x 49 x 11 x 18 18.1g.

In barn 10 a.m. testis only 4 mm. Epidid pigmented. Same Barn and creek as 1317-1319

1317 ♀ Eptesicus fuscus bernardinus 129 x 51 x 13 x 19 21.0g.

nipple small. Fat. Ovaries quite large but only small follicles. Pigment in ligaments. Both horns about same size.

1948

1318 ♀ Tadarida mexicana 105 x 40 x 10 x 19
Same barny crack as specimens 1316 + 1317. Nipple large, no milk. Fat. Spleen huge. Rt. horn much larger than left, rt. ovary much larger than left. Only small follicles.

1319 ♀ Tadarida mexicana 110 x 45 x 10 x 18
Location as 1318. Nipple large. Fat. Rt. horn & ovary much larger than left, no large or medium follicles. No pigmented ligament.

1320 ♀ Tadarida mexicana 104 x 39 x 11 x 19
Location as 1318. Nipple large. Male caught in same crack as 1318-20. Rt. ov. & ut. much larger than left. Numerous small-med. follicles in rt. ov., only small follicles in left. ov. No pigmented ligament.

1321 ♀ Zapus princeps Swager Canyon, 8200 ft., Sweetwater Mtns., Mono Co., Calif. 15.3
217 x 138 x 31 x 13 g.

Caught July 1, 1948, Swager Canyon. Put on short day 7/3. Looked fat 8/16. Dopey Oct. 3. Dead Oct 4. Never hibernated. Clotted blood in thorax. Uterus medium slender, no scars.

1322 Zapus princeps
see card Swager Canyon

1323 Zapus princeps 33.0g.

Betty Davis #953. Caught Sept. 2, 1948 at Red's Meadow, Madera Co.
Weighed 32.8g. when collected. Died, perhaps from Trypanosome injection, on Oct. 6, 1948. Uterus medium - slender, no scars.

3 collection 1324 ♀ Lepus ornatus 94 x 35 x 11 x 7 5.7g.
Caught by cat in? house Berkeley, Calif. Oct. 4, 1948.
Lactating. Uteri large but no embryos.

1325 ♂ Zapus princeps 150 x 72 x 25 x 14 14.5g.
Born in captivity July 1948. Mother from Swager Canyon, Mono Co. Died October 6, 1948.

1326 ♀ Zapus
BD986 caught Red's Meadow, Madera Co., Sept. 5, Died Oct. 15. 23.5g. much fat. Black discharge at anus as in

1948

Berkeley, Alameda Co., Calif.1326 ♂ Tadarida mexicanaJ.H.S. 1060 In house at night in Berkeley Oct. 7. Killed Oct. 9, 1948. (Mr. Robt. Finkle, 2418 Cedar St.)
testes 2 mm. No accessories seen.1327 ♀ Tadarida mexicanaJ.H.S. 1061 Caught as above. RT-ovary much larger than left, both with small follicles only.
RT-intestine longer than left. No pigment in hymen.1328 ♀ Zapus princepsRed's Meadow, Madera Co., Calif.

B.D. 902

Caught July 11, 1948, Red's Meadow, Madera Co., Calif. Splenectomized Aug. 2,
Put in cold room Sept. 24 - hibernated. Died Oct. 13. Had high trypanosome
infection and low RBC count (4,750,000) on Oct. 6 while hibernating. Normal
RBC count about 14,000,000. 16 gms. Death possibly from inflamed
large intestine. Uterus grey, rather thin. No fat. Bloody discharge at anus.1329 ♀ Zapus princeps

B.D.

986

Caught Red's Meadow, Madera Co.,
by Betty Davis Sept 5, 1948.Died Oct. 15. Bloody discharge at anus as in 1328 but large intestine only slightly
inflamed. 23.5 g. much fat. Fur OK. Uterus pale, medium thickness, no scars
1.3 miSan. S.E. Peninsula, Marin Co., Calif.Oct. 16, 19481330 ♀ Corynorhinus rafinesquii intermedius

111 x 53 x 11 x 39

Shot in barn in afternoon. Banded MK 46-6672. Nipples small,
vagina open by very small slit. Some fat. RT-intestine larger than left. Ovaries
large but no large follicles seen macroscopically. Banded as adult July 16, 1947. May 30
1948 with young. August 10, 1948 lactating. Interstitial cells not particularly large or
med follicles. Uterine B.V. thick-walled but no sperm.1331 ♀ Corynorhinus rafinesquii intermedius

104 x 51 x 11 x 36

Shot in barn in afternoon. Banded MK ~~46-6672~~ 41-167929
Nipples smallish. Fat. RT-horn considerably larger. No large follicles seen. Banded
Aug. 10, 1948, recorded as "lactating?" at that time. No large follicles. Many mitoses
in granulosa. Uterine B.V. path thick wall, no sperm. Vagina deeply
stratified but not cornified.1332 ♀ Myotis thysanodes thysanodes

84 x 37 x 9 x 18

Shot in garage at 9:30 p.m. Nipple tiny. Fat. Uteri quite small, translucent.

1333 ♂ Myotis thysanodes thysanodes

87 x 39 x 10 x 19

Shot in garage 9:30 p.m. Testes 5 mm.

P. PEARSON

1948

1.3 mi SE Inverness, Marin Co., Calif.

- 1334 ♂ Corynorhinus rafinesquii
 shot morning of Oct. 17, same place as 1330 & 1331. Epidid well down in membrane.
 Testis 11 mm, Epidid large, in tail membrane. Fat. Epidid packed with sperm, seminif.
 tubules visible, some with sperm, others exhausted. Very little interstitial tissue
- 1335 ♀ Myotis yumanensis no skin no skull
 Fat. shot 9:30 p.m. in barn. Stomach full. Uteri small, left ovary
 large, rt. quite small?.

- 1336 ♀ Myotis yumanensis saturatus shot in barn
 9:30 p.m. 84 x 37 x 10 x 14
 Nipples large + dark. Fat. Stomach full. Rt. horn uterus larger. No large
 follicles seen.

- 1337 ♂ Antrozous pallidus pacificus 119 x 44 x 14 x 33
 shot in barn at 9:30 p.m. Fat. Testis 10 mm

- 1338 ♀ Myotis yumanensis saturatus 81 x 36 x 10 x 15
 shot in barn 9:30 p.m. Nipples tiny. Fat. Uteri quite small, not as large
 as 1336.

- 1339 ♀ Myotis yumanensis no skin no skull.
 shot in barn 9:30 p.m. Nipples large. Fat. Rt. horn larger than left.

- 1340 Peromyscus 160 x 80 x 20 x 14 skull only
 Found hopping slowly through woods at 4 p.m. Probably sick or decrepit.
 T. less.

- Red's Meadow, Madera Co., Calif.
 1341 ♂ Zapus princeps
 BD 964 Caught Sept. 3, 1948, Red's Meadow, Madera Co. Weighed 13.7 g when caught.
 Died Oct. 17. Testes 5 mm, seminal vesicles translucent, 9 mm long.

- 1342 ♀ Zapus princeps
 B.D. 954 Caught Red's Meadow Sept. 2, 1948. Weighed 37.5 gm when caught.
 23.2 g. upon death. Fur OK. Fat. Uteri medium - slender with placental
 scars. One lung dark.

1948

1.3 mi SE Inverness, Marin Co., Calif.

Oct. 20, 1948.

- 1343 ♀ Comptosia rufinesquiei internatus 110 x 52 x 11 x 37 82g
 caught in afternoon in barn. Killed Oct. 21, 2 p.m. Nipples medium, skin around them quite bare and bright pink-rosy. Vagina noted as quite open on Oct. 20 but only with small tiny opening on Oct. 21. Banded 41-167923 on Aug. 10. Recorded vascular, rt. horn larger. No otheca in rostrum. Uteri rather as young. Both ovaries. No large follicle or corpora seen under dissecting scope. No fat. In sections: no large follicle or corpora. Interstitial cells not extremely enlarged. Uterine blood vessels not thick-walled. No sperm. Vagina thick stratified, but not cornified.

- 1344 ♀ Myotis yamaneensis saturatus 89 x 38 x 10 x 15 6.9g.
 Caught at night Oct. 20 in barn. Killed Oct. 21, 2 p.m. Nipple small. Much fat. Both horns about same size. No large or med follicles seen under dissecting scope.

- 1345 ♂ Myotis yamaneensis saturatus 86 x 40 x 9 x 16 5.4g.
 caught + killed as 1344. Testes not prominent. 5 mm. No fat.

- 1346 ♀ Tadarida mexicana caught San Francisco in house
 on October 25. Very fat. Rt. ovary + horn much larger than left. No large follicles seen under dissecting scope. No sperm in vagina or uterus. No skin rosh.

- 1347 ♀ Zapus princeps Red's Meadow, Madera Co., Calif.
 B.D. 988 caught Red's Meadow, Madera Co., Sept. 5, 1948. Immature when caught, weighed 16.7 gm. Hibernated Oct 29 + 30. Died Oct. 31. Betty's notes say "was definitely hibernating".

- 1348 ♂ Zapus princeps
 B.D. 990 Caught Red's Meadow Sept. 5. Died Nov. 3. Wt. 17.1 gm when caught.

Knobville, Napa Co., Calif.November 4

- 1349 ♀ Dipodomys heermanni 282 x 171 x 42 x 17
 Caught by W. M. Foryhurst in August, 1948, killed November 4, 1948

1948

45

1350 ♀ Dipodomys heermanni

293 x 180 x 42 x 16

Caught as 1349. Killed Nov. 17, 1948. Uteri medium ~~thick~~, no scars, ovaries with numerous medium follicles but no corpora. Much fat.1351 ♂ Dipodomys heermanni

291 x 180 x 41 x 15

Caught as 1349. Killed Nov. 17, 1948. Testis 12 mm. Fat.

1352 ♀ Dipodomys heermanni

295 x 182 x 43 x 14

Caught as 1349. Killed Nov. 26, 1948.

4300 ft

Subway Cave, 11 mi. SE Hat Creek, Shasta Co., Calif.Nov. 6, 19481353 ♀ Corynorhinus rafinesquii intermedius

109 x 49 x 11 x 37

Caught in daytime in cave. Male + female in same large cave but not clustered. all torpid + cold. dried secretion around anus + vulva, vaginal opening not large, nipple tiny, surrounded by bare area. Much fat. Uteri fairly vascular but not enlarged. Under dissecting scope no large follicles or corpora seen. In sections: sperm in vagina + uterus, ciliated cervix, one med-large follicle.

1354 ♀ Corynorhinus rafinesquii

no skin, no skull

108 x 50 x 11 x 37

Capture as 1353. Vaginal opening tiny, nipple medium large, clear fluid expressible. Considerable mammary tissue? (pickled) Uteri more vascular than 1353, but not enlarged. Right horn slightly larger than left. Irregular ^{in sections: some mammary tubules but} vascular spot in right ovary. not active, mostly fat. One medium follicle, sperm in uterus1355 ♀ Corynorhinus rafinesquii

no skin, no skull

110 x 50 x 11 x 38

Capture as 1353. Nipple medium large, tiny drop of white fluid expressible. Vaginal opening tiny. Much fat. Uterus quite vascular but not enlarged. Right horn larger than left. Large follicle in right ovary. Does not protrude.

1948

4300ft

46

Sulway Caves 11 mi SE Hat Creek, Shasta Co., Calif.

1356

~~1356~~ ♀ Corynorhinus rafinesquiino skin, no skull
111 x 54 x 11 x 39

Caught as 1353. Nipple small, nothing expressible.

Hair in anal region matted, dry secretion on vulva. Vaginal opening tiny. Much fat. Uterus vascular, but not as vascular

1355 Uterus ~~not~~ enlarged. Right horn larger than left,

Large follicle in right ovary.

1357

♀ Corynorhinus rafinesquiino skin, no skull
108 x 49 x 10 x 36

Caught as 1353. Nipple very tiny. Hair in anal region somewhat matted. Vaginal opening tiny. Much fat. Uterus vascular, not enlarged. Right horn larger. No large follicles or corpora seen.

1358

♀ Corynorhinus rafinesquiino skin, no skull
108 x 53 x 11 x 38

Caught as 1353. Nipple medium large, nothing expressible.

Anal region all goosey, milky fluid expressible from vaginal opening. Vaginal opening small. Much fat. Uterus vascular, not enlarged.

Right horn larger than left. Possibly medium-large follicle in left ovary, none seen in right ovary. Medium-small follicle in ~~one~~ ovary. Sperm in uterus.



P. PEARSON

1948

12 mi. SE. Hat Creek, Shasta Co., Calif.
Nov. 6, 1948

1359

♀ Corynorhinus rafinesquiino skin, no skull
110 x 50 x 11 x 38

Taken in afternoon, in cave with 1360 & 1361. No males in cave. Nipple tiny. Vagina with small opening. Much fat. Uterus not at all vascular, ~~uteri~~ rather small. Right ovary with medium-large follicles, left ovary with small follicles. One med. follicle; sperm in ut. and oviduct.

1360

♀ Corynorhinus rafinesquiino skin, no skull
106 x 50 x 11 x 37

Capture same as 1359. Nipples small, tiny drop of white fluid expressible. Hair around anus goosey, vaginal opening small. Much fat. Uterus quite vascular but not enlarged. Right horn larger. Large follicle in left ovary, medium follicles in right. Piece of scent gland pickled. Only one small-medium follicle (smaller than in 1368). Sperm in ut. Numerous mitoses in ut. Vagina packed with sperm, not cornified.

1361

♀ Corynorhinus rafinesquiino skin, no skull
108 x 50 x 11 x 36

Capture same as 1359. Nipple medium large, some fluid can be expressed. Vaginal opening small. Much fat. Uterus slightly vascular, not enlarged. Right horn larger. No large follicles or corpora seen with dissecting scope in either ovary. Scent gland pickled. One medium follicle; sperm in ut. & oviduct. Mitoses in ut.



1948

48

Subway caves, 11 mi. SE Hat Creek, Shasta Co. Calif.
Oct. Nov. 6.

1362

♀ Corynorhinus rafinesquii intermedius

109 x 49 x 11 x 37

Collected at 9:30 p.m. P.D.T. on roof of cave. Had been hanging at same place at least since 7 p.m. When collected the female had ~~been~~ cold, was cold and quite torpid. Did not wake up ~~apparently~~ ~~for~~ during the next half hour of hanging around cave. When collected she was mounted by an awake, active male whose penis was slightly longer and pinker than another (or same) active male caught a few minutes later. Vagina of female was capped by a pale amorphous gelatinous mass which, when removed, was underlain by semen-like fluid. When she was killed a half hour after capture, a pearly gelatinous ~~fluid~~ globe of fluid ~~the~~ 3 mm in diam could be pressed out by pressing on abdomen. * Nipple medium-large, no fluid expressible. Vaginal opening small but not tiny. Much fat. Uteri quite avascular (and ovaries), possibly because killed while still torpid. Uteri not enlarged but vagina possibly stouter than most. Rt. horn slightly larger. Large follicle in left ovary, medium-large in right. All medium follicles and larger under dissecting scope appear as dark-translucent discs surrounded by white (vascular?) rings. Both ovaries with small-med. follicles. * This fluid full of sperm. Sperman interest oviducts. Vagina not cornified.

Parrish

Cave near Ice Cave, 12 mi. SE. of Hat Creek,

Nov. 7

Shasta Co., Calif.

1363

♀ Corynorhinus rafinesquii

105 x 46 x 10 x 37

no skin, no skull

Collected 2 P.M., torpid, mounted by torpid male. Vaginal orifice gooey, pearly fluid could be expressed. Vaginal opening small. When killed at 7 P.M. only clear urine was expressed. Much fat. Nipple tiny. Uterus vascular, not enlarged. Right horn larger. Large follicle in left ovary & right ovary with medium follicles. Semen-like fluid in vagina. Scent lump saved. Pelvis & wing saved.

1364

♀ Corynorhinus rafinesquii

109 x 51 x 11 x 37

Captured in same cave as 1363. Nipple medium large, small amount of fluid expressible. Vaginal region quite gooey. Much fat. Uteri slightly vascular, not enlarged. Left ovary with small follicles, right with diamond-shaped dark area - follicle? Uterine artery conspicuously ensheathed with white. Greyish flocculent fluid in vagina.

PEARSON

1948

Cave 1.6 miles north of Subway Caves,
Nov. 7 Shasta Co., Calif.

1365

♀ Corynorhinus rafinesquii

104 x 51 x 11 x 37

Captured in afternoon, torpid. Probably the only bat in the cave at this time. Nipple medium, no fluid. Vaginal opening small, not goosy. Much fat. Uteri not vascular. Arteries conspicuously white-sheathed. Right ovary with large follicle, ~~it~~ does not project. Small blood vessels across its surface. Left ovary with small follicles.

Subway Caves, 4300 ft., Shasta County Calif.
Nov. 8

1366 ♂ Eptesicus fuscus bernardinus

120 x 50 x 12 x 15

Caught Nov. 6, died Nov. 8.

1367 ♀ Corynorhinus rafinesquii

no skin, no skull

109 x 50 x 11 x 37

Caught at night in contact with 2 other ♀♀ below. Nipple medium, no fluid. Vagina not goosy. Much fat. Uterus smallish, not vascular. Artery with thin white sheathing. Large follicle in right ovary, none in left.

1368 ♀ Corynorhinus rafinesquii

no skin, no skull

109 x 49 x 11 x 38

Caught as 1367. Nipple medium large, tiny drop of fluid. Vagina not goosy. Much fat. Uterus not vascular, not enlarged. Large follicle in each ovary. Nose lump saved. 53-R/- polar body and 2nd spindle in atretic follicle. Interstitial cells not luteal. Only one large follicle seen. Many sperm in uterus and oviduct. Eccentric germinal vesicle, no P.B. Mitoses in uterus extremely abundant. Vagina thick stratified, not cornified. Ciliated cervix?

1369

♀ Corynorhinus rafinesquii

no skin, no skull

107 x 50 x 11 x 36

Caught as 1367. Vagina not goosy. Nipple medium, no fluid. Much fat. Uteri not vascular, not enlarged. Artery with thin white sheath. Medium large follicle in left ovary. No large follicles in right.



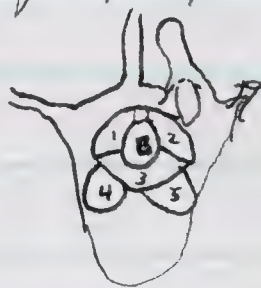
1948

Subway Caves, 4300 ft., 11 mi. SE Hat Creek, Shasta Co., Calif.Nov. 9,

- 1370 ♂ Myotis subulatus melanorhinus $88 \times 45 \times 7.5 \times 16$
 caught at night in cave Nov. 6, killed Nov. 9. accessories enlarged. Testes ^{not} found

- 1371 ♂ Myotis subulatus melanorhinus $85 \times 41 \times 7.5 \times 16.5$
 caught at night in cave, Nov. 6, killed Nov. 9. accessories not enlarged. Testes 1 mm.

- 1372 ♂ Corynorhinus rafinesquii intermedius $107 \times 48 \times 11 \times 38$ sk + sk.
 caught Nov. 8 11 a.m. killed Nov. 9 1 p.m. Epidid in tail membrane.
 Testes 4.5 mm, no tubules visible even under dissecting scope. Epidid. 6 mm.
 accessories very large + firm.
 Not as fat as the females (but awake for a day). Epidid. packed with sperm. Seminif tubules completely quiescent, interstitial tissue much reduced.



- 1373 ♂ Corynorhinus rafinesquii $107 \times 48 \times 11 \times 38$ no sk no sk.
 captured as 1372. Considerable fat - Epidid in tail membrane. Testes 5 mm., flabby. Accessories very large as above. Epidid. packed with sperm, seminif tubules very small and quiescent, interstitial tissue much reduced.

- 1374 ♂ Zapus princeps $[123] \times [37] \times 31 \times 14$ 16.4g
 BD 987 Caught Red's meadow Sept. 5, 1948. Weighed 14.9g when caught. Died Nov. 9.
 no fat. Cause of death ??

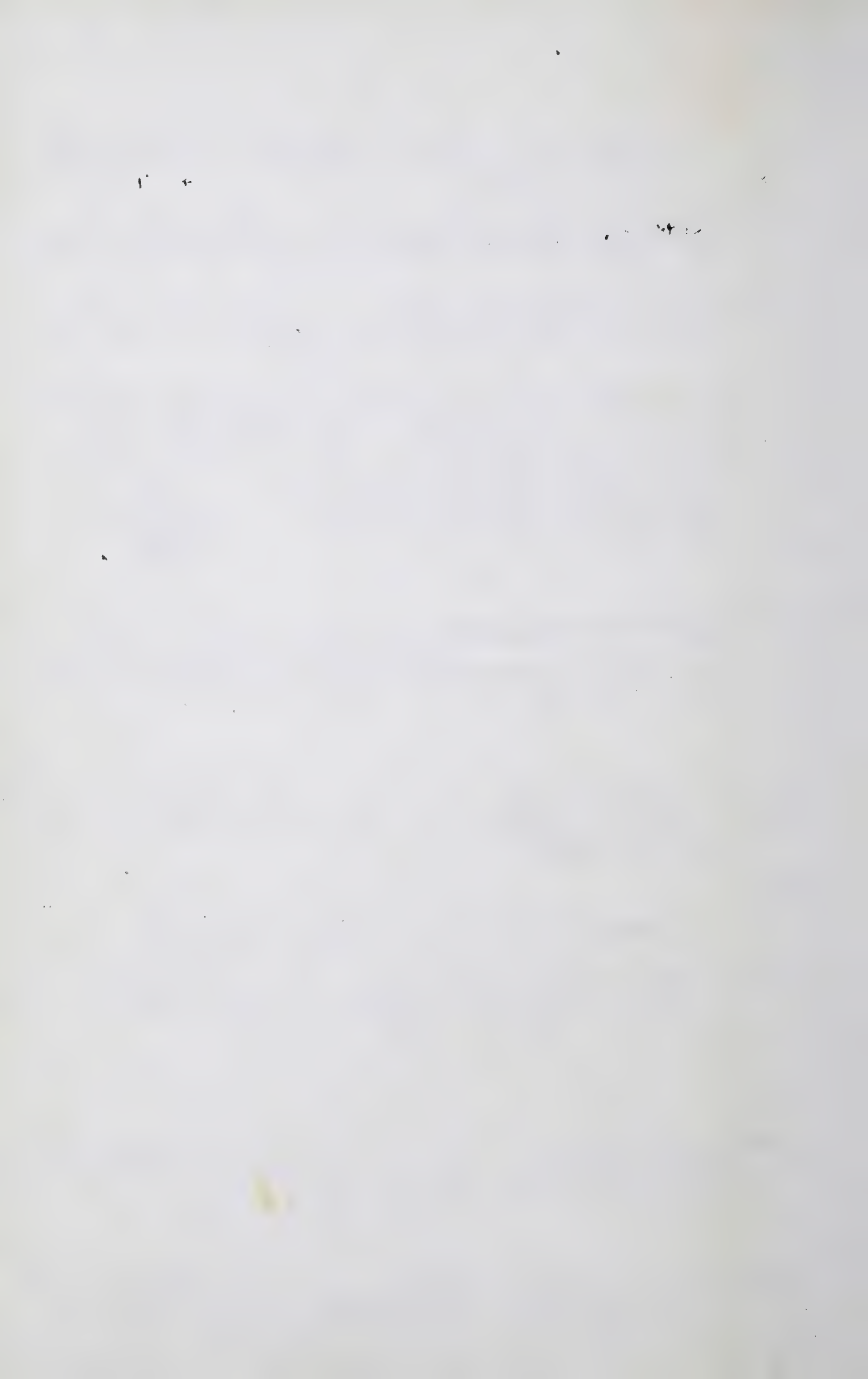
skipped

Jacksa Hill, 1500 ft., 5 mi. W of Doron, Trueman Co.

- 1380 ♀ Myotis californicus californicus $79 \times 33 \times 7 \times 13$
 In mine tunnel at 8 p.m. awake. Copulating with 1382. Fat. Vaginal region bruised, skin over flanks bright pink. Muffled. Nov. 13, 1948

- 1381 ♀ Myotis yumanensis $85 \times 36 \times 10 \times 14$
 Under bridge above, Trueman River, 900 ft., ESE of Jacksonville, Trueman Co.
 Fat. Nov. 14, 1948. Accessories large.

- 1382 ♂ Myotis californicus californicus $82 \times 39 \times 7 \times 13$
 In mine tunnel at 8 p.m. awake. Copulating with 1380. Fat. Penis large, bruised. Caught Nov. 12, killed Nov. 14, 1948. Jacksa Hill



1948

- 1383 ♂ Corynorhinus rafinesquii intermedius 104 x 46 x 11 x 38
 Caught Nov. 12, killed Nov. 14. alone in tunnel. awake. Jochems Hill
 Testes 4.5 mm. Not fat. Accessories large. Epidid. packed with sperm; seminif. tubules small + inactive, with numerous large spermatogonia, interstitial cells small, not secreting.
- 1384 ♂ Corynorhinus rafinesquii intermedius 99 x 48 x 10 x 37
 Caught Nov. 12, killed Nov. 14. alone in tunnel. awake. Jochems Hill. Testes 4 mm.
 Not fat. Accessories large.
- 1385 ♂ Corynorhinus rafinesquii intermedius 98 x 50 x 10 x 36
 Caught in tunnel at Goodwin Dam on Stonewall River, 4 mi. NE of Knight's Ferry. Flying. Testes 4 mm. Not fat. Accessories large. Same as 1384.
- 1386 ♀ Myotis californicus californicus 80 x 36 x 7 x 14
 Caught in cabin on Jochems Hill Nov. 12. Killed Nov. 14. Fat. U.G. tiny. Awake when caught.
- 1387 ♂ Myotis californicus californicus 76 x 33 x 7 x 13
 Caught in cabin on Jochems Hill Nov. 12. Killed Nov. 14. awake when caught.

Red's Meadow, Madera Co., Calif.

- 1388 ♂ Zapus princeps skull only.
 BD 920 Caught Sept. 4, 1948. WT. when caught 25.5 g. Died Nov. 12. Testes 5 mm.
- 1389 ♂ Zapus princeps skull only
 BD 910 Caught July 14, Splenectomized Aug. 2, 1948, killed (but sick) Nov. 13. Testes 4.5 mm.
 some fat.

Swager Canyon, Mono Co.

- 1390 ♂ Zapus princeps skull only
 Caught ca. 7/1 1948. Kept on short day. Died 11/15. many mites. No fat.
 Testes 7 mm.
- 1391 ♂ Zapus princeps
 caught ca. 7/1. castrated 7/5. short day. never hibernated. Died 11/18

Red's Meadow, Madera Co.

- 1392 ♂ Zapus princeps
 BD 971 Caught Sept. 4, weighed 19.6 g (marked immature). Was naturally infected with trypanosomes. Died Nov. 22. 16.5 g. Testes 5 mm.

300 yds SE of Pea Cane, Hat River, Shasta Co. 4300 ft. Calif.

- 1393 ♂ Corynorhinus rafinesquii intermedius 95 x 48 x 9 x 35
 caught Nov. 9. Injected olive oil intraperit and kept in cold room.
 Died Nov. 23. Testes 4 mm. Much oil in caecum.

1948

Red's Meadow, Modera Co., Calif.

- 1394 ♂ Zapus princeps
 BD 972 Caught Sept. 4, recorded as immature ♂, 20.2 gm. Died Nov. 23, 1948. Some fat, appeared to be in good condition.

3 mi. S of Middleton, Lake Co., 1200ft., Calif.
Nov. 25

- 1395 ♀ Corynorhinus rafinesquii intermedius 111 x 53 x 11 x 37 11g.
 Caught by MK in morning of 11/25. alone in closet of house. Ears curled but awake rapidly. Killed in p.m. 4:30. Urine and milky fluid effusable. Mipples small. Much fat. Uteri somewhat vascular, artery distinctly but thinly white-sheathed. Rt. horn larger. Under dissecting scope one med. follicle in rt. ovary. In sections: 1 med. pale follicle. Oviduct columnar, secretory. Sperm in uterine. Uterine blood much not thick-matted.

Lucerne, 1330 ft., Lake Co. Calif.
Nov. 25

- 1396 ♀ Corynorhinus rafinesquii intermedius 105 x 50 x 11 x 38 11.5g
 caught by MK
 mipples tiny. In mine tunnel. no other Cory. In afternoon of 11/24. Uterine horns about same size, artery not wiggly and not conspicuously sheathed. Dark discolorations in both ovaries but no definite large or med. follicles. In sections: oviduct columnar, quite secretory. Sperm in uterine. Small-medium (but pale) follicle in one ovary.
 1397 ♀ Myotis thysanodes thysanodes 89 x 38 x 9 x 18 7.4g.
 caught by MK
 In tunnel. much fat. Uter. small, not vascular. no foll. seen in left ov. under dissecting scope, small foll. seen in rt. ovary.

Red's Meadow, Modera Co., Calif.
Nov. 26

- 1398 ♂ Zapus princeps
 BD 887 Caught July 6, 1948. Died Nov. 25, 1948. no fat.
- 1399 ♂ Zapus princeps
 BD 969 Caught Sept 4, 1948. Weighed 15.2g at capture. Died Dec. 6. Thin. Testes 4mm.
- 1400 ♀ Zapus princeps
 B.D 895. Fat. Mipples prominent. 34 gms. Died Dec. 6. Uterus atonic, with scars.

Subway Caves, 4300ft., Shasta Co., Calif.

- 1401 ♂ Corynorhinus rafinesquii
 Caught Nov. 9, 1948. Preserved subcut. with olive oil and kept 45°. Died about Dec. 5. 8 gms. ~~Appearance~~. Hanging when dead with ears unfurled. Oil not absorbed.

1948

- 1402 ♂ Corynorhinus rafinesquii
 Caught Nov. 9, 1948. Died about Dec. 5. Injected with olive oil intraperit. oil not absorbed. Weighed 8.5g. Hanging dead, ears unfurled.

Waipio Valley, 10 ft.HawaiiNov. 17, 1948

- 1403 PHB 435 ♂? Lasiurus semota 132 x 62 x 12 x 16
 arrived gutted and frozen, Dec. 9. Skeleton + part skin saved.
- 1404 PHB 466 ♀ Herpestes 543 x 240 x 57 x 21 ^{35T} g.
 arrived frozen from Baldwin, Dec. 9. not preg. Skeleton saved. Both ovaries with small + med. follicles, no corpora. Ova surrounded by a thick, rather indistinct zona pellucida so that ovaries contain great numbers of atretic ova - like worm-eggs.
- 1405 PHB 463 ♂ Herpestes
 arrived frozen from Baldwin Dec 9. Testes scrotal but not conspicuously so, penis shaped like boar's, urethra opening ventro-posteriorly by a 3-mm. slit.

P. PEARSON

1948

Caught by M. Koford
mouth of Malpaso Creek, 5 mi. S. of Carmel, Monterey Co. Calif.

Dec 11, 1948.

- 1406 ♀ Corynorhinus rafinesquii 9.8 g.
Mipple tiny. Uteri not swollen but vascular. One hemorrhagic spot in rt. ovary. B.V. not thick-walled (no white sheathing marks under dissecting scope). No sperm expressible. Some fat but not as much as (Jassen bats a month ago. In sections: ³medium Graafian follicles in one ovary (at least, atretic) and 2 (atretic) in other. 55 good stain. Many sperm in vagina + uterus. No thick-walled arteries found.
- 1407 ♀ Corynorhinus rafinesquii 10 g.
Banded 46-26780 - lactating when banded July 21, 1947. also caught July 23, 1947, same place. Mipple small. No sperm expressible. ~~light~~ Some fat but not much. Uteri not swollen, but vascular. artery conspicuously white-sheathed. Pink follicle in rt. ovary. Caught torpid in house with 1406-1409. No others. ^{Small-med. follicle in} one ovary. many sperm in uterus. Mitoses locally abundant in uterus - ~~Vagina not~~ ~~thick-walled arteries~~ ~~extensive~~.
- 1408 ♂ Corynorhinus rafinesquii 10.0 g.
Testis 6 mm., epidid even larger. Seminiferous tubules just visible under dissecting scope. No fat. Rt. lobe of liver very large and swollen, looks pathological. ^{sperm in epidid.} Tubules with many Sertoli and a few spermatogonia. Lumen open, many large vacuoles. Numerous interstitial cells but don't look secretory.
- 1409 ♀ Corynorhinus rafinesquii 9.3 g.
Mipple tiny. Considerable fat. Uteri rather small, not vascular, hence artery not readily visible, but no sheathing seen. No large follicles seen under dissecting scope. Many sperm in vaginal smear. In sections: a few sperm in uterus. One medium follicle in one ovary.

Keyline Blvd., County Jail, San Mateo Co., Calif.

1410 Sorex vagrans fulvidivagus 103 x 42 x 14 x 8 4.7g.
Caught Dec. 9, 1948. Killed Dec. 13. Testes 2 mm. accessory tiny.

1411 ♂ Corynorhinus rafinesquii intermedius 103 x 48 x 11 x 37 9g.
Torpid in "Lewdi's" barn, Limeressa, in late afternoon Dec. 14.
No other bats present. Epidid. very conspicuous in tail membrane,
7 mm. Testes 6 mm, greyish, flabby. Some fat but not much.
Accessory quite large. Stomach empty. ^{tubules with ductuli and a few sperm, interstitial cells present but not large. Sperm in epidid.}

Red's Meadow, Madera Co., Calif.

1412 ♂ Zapus princeps
BD 911 Caught July 14, 1948. Killed (sick) Dec. 16, 1948. Betty recorded as adult ♂
Considerable fat. Testes 5 mm. natural tryp. infection.

1413 ♂ Zapus princeps
BD 909 Caught July 14, 1948. Natural infection with trypa. Died Dec. 15.
Considerable fat. Testes 5 mm.

1414 ♀ Corynorhinus rafinesquii
3000 ft., 3 1/2 mi. N. Parkfield, Monterey Co. (Patrician Quickel's
mine). By MK Dec. 21, 1948. Torpid, 200 ft. back in tunnel.
alone - Very fat.

Jackass Hill, 1500 ft., 5 mi W. Sonora, Tolueme Co., Calif.

1415 ♀ Corynorhinus rafinesquii
Brought in by Harold Gray, Dec. 31. Caught Dec. 29 in afternoon in
mine tunnel on Jackass Hill, 1500 ft., 5 mi. W of Sonora,
Tolueme Co. Torpid when caught. alone. Kept at room temp. Started
to eat Jan. 10. Had drunk earlier.

Killed by ether Jan 24. Nipple small. Blood vessels white, sheathed.
Uteri medium, no follicles seen in either ovary. No live sperm
found in smear of uterus + vagina. ^{3/4 med. number follicles in left ovary, somewhat} collapsed but not abnormally atretic. Many leucocytes in
uterus, sperm in oviduct + cervix. Cervix ^{case especially thin sections on 53.} thickly stretched, not cornified.

1949

Jambone Creek, 3300 ft., 2.1 mi. E and 7 mi S Sonora, Tuolumne Co., Calif.
Jan. 7, 1949

- 1416 ♀ Corynorhinus rafinesquae intermedius 102 x 48 x 10 x 35 9g.
 Caught by Carl Koford Jan. 6. Myotis Calif in same tunnel. 44° nipple tiny. Clear urine
 expressible. Much fat. Both horns of uterus about same size. O.V. not conspicuously
 white-sclerated. Left ovary with small-medium follicles. no corpora seen.

- 1417 ♂ Myotis californicus californicus 74 x 31 x 6 x 13 3.4g.
 Testis 2 mm. Epidid. larger. Considerable fat. By Carl Koford

- 1418 ♂ Myotis californicus californicus 80 x 40 x 7 x 15 3.9g.
 Testis 2 mm, epidid. 5. By Carl Koford.

3/8 mi NE jct. Jambone Creek and Tuolumne River, 3000 ft., Tuolumne Co., Calif.
Jan. 7, 1949

- 1419 ♂ Myotis californicus californicus 82 x 39 x 7 x 15 3.0g.
 Caught by Carl Koford in same tunnel as My. thyroideus last spring. 60°. Testis 2 mm.
 no fat. (Compare with 2 above from 44° Tunnel).

Fillmore, Ventura Co., Calif.

Jan. 7, 1949 (Caught Dec. 21, 1948)

- 1420 ♂ Lasius cinereus cinereus 136 x 59 x 11 x 12.
 Testis 4 mm. pale. Sent to Carl Koford by S.B. Payton. See letter of Jan. 3, 1949
 Epidid. smaller. Accessories small, about 3 mm (sem. ves.). Died Jan 7.

- 1421 Lasius cinereus cinereus 142 x 60 x 12 x 13
 Killed Jan. 10. Testis 4 mm. no fat. Seminal vesicles small-medium (4 mm). Sperm in
 epidid. Seminal tubules mostly Sertoli, a few spermatogonia, no lumen, much
 vacuolated cytoplasm

4300 ft.

(these were probably from Parish Caves)

Subway Caves, 11 mi. S.E. Hat Creek, Shasta Co., Calif.

- 1422 ♀ Corynorhinus rafinesquae
 Caught Nov. 9. Kept in 45° cold room until Dec. 29, then kept at home at room
 temp. and fed. Opened on Jan. 11. One ovary seen, no corpora, but no good view of uterus.
 Certainly not appreciable embryo or would have seen it. Killed Jan. 17. 7.5g.
 Nipple tiny. Uterus small < 1 mm. thick, rt. horn slightly larger. No med.
 follicles at corpora seen in either ovary. No implantation. No fat. subcut.
 In sections: no large or med. follicles. One late atretic. No corpora.
 Some sperm.

1949

1423 ♀ *Corynorhinus rafinesquii*
 Caught Nov. 9. Kept in 45° room until Dec. 29, then taken home and fed.
 Operated Jan. 18. Not preg.
 Operated Jan. 24. Not preg. Nipples small. Killed with ether. Uteri rather small. Blood vessel white sheathed. Right ovary, no follicles seen. Left ovary, no follicles seen. Fecundile sperm in ~~ovary~~ ^{very} of uterus + vagina. One late atretic follicle in right ovary, a few sperm in uterine and oviduct. Epithelium of upper oviduct degenerating. Vagina thick but not cornified.

1424 ♀ *Corynorhinus rafinesquii*
 Caught Nov. 9. Kept in 45° room as control for 1422+1423. Killed Jan. 18. Torpid when removed from cold room, awoke rapidly. 7.0 g. Nipple tiny. No fat. Bladder large. Rt. horn slightly larger than left. B.V. not white-sheathed. No med. foll. or corpora seen. In sections: Intestines more distended than 1422. One med. follicle in Rt. ovary. Oviduct very secretory. Many sperm in vagina, cervix, uterus, + oviduct.

1425 ♀ *Corynorhinus rafinesquii*
 Caught Nov. 9. Kept in 45° room as control for 1422+1423. Killed Jan. 25. Good shape. 7.8 g. No fat. Nipple small. Rt. horn > 2 mm. thicker than left. B.V. conspicuously white-sheathed. No large follicles or corpora seen in ovaries. Oviducts look unusually large and smeary, made by sloshing excised U.G. tract in drop of .75 saline contained many cornified cells. Also 1 vigorous sperm and a few dead ones. Uterus not cut open.

Subway Caves, 4300 ft., Shasta Co., Calif.

Jan. 16, 1948

1426 ♀ *Corynorhinus rafinesquii* 8.6 g.
 Nipple large. Caught Jan 15, A.M.; killed Jan 16.
 8.6 grams. Torpid, temperature of cave, +1°C. Not much fat. Uterus medium. Size, right horn larger than left. Blood vessel conspicuously white-sheathed. No large follicles or corpora seen in right ovary or left. One med. follicle in the small left ovary. Many mitoses in uterus. Sperm at both tubo-uterine junctions.

1427 ♀ *Corynorhinus rafinesquii* 7.7 g.
 Taken as 1426, torpid, temperature of cave +1°C.
 7.7 grams. Nipple tiny. Some fat. Uterus very small (much smaller than 1426). Right horn scarcely larger than left. Blood vessel not conspicuously white-sheathed. Right ovary without large follicles or corpora. Little left ovary. In sections: abundant sperm in uterus. No large, med., or vesicular follicles in either ovary.

1428 ♀ *Corynorhinus rafinesquii*
 Taken as 1426. Dead on way home.
 Nipple tiny. Not much fat. Uterus very small as in 1427. Distance across top of T 4.5 mm. Horns 1 mm thick. Right horn same size as left. Blood vessel not white-sheathed. Right ovary with pink spot. Nothing in left ovary.

1949

58

Subway Caves, 4300 ft., Shasta Co., Calif.

- 1429 ♀ Corynorhinus rafinesquii
see card. Taken Subway Cave, torpid, Jan 15. Stepped on. In contact with ♂, didn't move overnight. Nipple large; milky fluid expressible from vagina; much fat. Uteri fairly large - rt. horn larger. Blood vessel with white sheathing, median follicle in left ovary, none in right. 9.6 g
- 1430 ♀ Corynorhinus rafinesquii
Nipple medium-large. Caught Jan 15. Died on way home. Dissected Jan 16. Much fat. Uterus larger than 1428, smaller than 1426: 5 mm. across T. rt. horn thicker than left: 2 mm. B.V. white-sheathed but difficult to open because uterus blanked & No large follic. or ~~corpora~~ corpora in either ovary.
- 1431 ♂ Corynorhinus rafinesquii 7.0 g.
Caught Jan 15, died on way home. Dissected Jan 16. Practically no fat. Accessories large. Testes whitish, 4 mm., epidid. same size. Histologically same as 1433.
- 1432 ♀ Corynorhinus rafinesquii 8.5 g.
Subway Cave. Temperature +1°C. Torpid all night. 8.5 grams. Nipple large, clear fluid expressible. Some fat. Uterus medium, right horn larger than left. Blood vessel white sheathed. Large follicle in left ovary; none seen in right. Killed Jan 16, taken Jan 15.
- 1433 ♂ Corynorhinus rafinesquii 7.2 g.
Torpid in cave, Jan 15. Cave 300 yds. SE of Ice Cone. Roosting alone. Very little fat. Accessories large. Testes whitish, 4 mm. Epididymis same size. Very little interstitial tissue. Seminif. tubules small, mostly Sertoli, few spermatocytes. Tunica thick. Epidid packed with sperm.
- 1434 ♀ Myotis subulatus melanorhinus 3.3 g.
85 x 37 x 7 x 15
Nipple tiny. No embryos, no sperm seen in uterine smear. Torpid in cave, Jan 15. Subway Cave.
- 1435 ♂ Myotis subulatus melanorhinus 3.1 g.
81 x 38 x 7 x 15
Testes 2 mm. Torpid in cave, Jan 15. Subway Cave.
- 1436 ♂ Corynorhinus rafinesquii intermedius 8.0 g.
109 x 52 x 11 x 37
Subway Caves. Torpid in cave, Jan 15. Testis 5 mm; epididymis 5 mm. Accessories large; 8 wide by 7 long. Many sperm in epidid - small and close-packed, very little interstitial tissue.
- 1437 ♀ Corynorhinus rafinesquii small
Subway Caves. Torpid. Caught Jan 15. Died on way home. Nipple tiny. Not much fat. Rt horn 2 mm. thick, longer and ~~thicker~~ thicker than left. 1 med. follicle in left ovary. No stain. Sperm in uterus. B.V. thick walled & and oviduct, especially at tub - uterine junction. Leucocytes in uterus, 54 good to show thick-walled uterus.

1949

1438 ♀ Corynorhinus rafinesquii
Kept captures room temp. Fed. Ovary Feb 7. Nipple medium. Rt. horn stouter but not
visibly pregnant. Rt. ear nipped. (Feld self). Killed March 24. 18 grams, fat. Nipple medium.
Uteri rather plump and quite vascular. Rt. horn larger. B.V. thick-walled. Small
follicles in both ovaries but no corpora seen under dissecting scope.

1439 ♀ Corynorhinus rafinesquii
Kept captures room temp. Fed. Ovary Feb. 18. Nipple large. Rt. horn quite stout, about 3 mm, but not
obviously pregnant. No corpora seen in Rt. or left ovary. Matted RP 2 left ear chewed. Killed Feb. 5. Wt. 10.3 g.
Nipple large. Rt. horn of uterus fairly stout but no embryos. No follicles or corpora seen
in either ovary. In disks - vacuolated c. l.

Pit River, 3000 ft, 11½ mi NE Burney, Shasta Co., Calif.
January 16, 1949.

1440 ♂ Corynorhinus rafinesquii intermedius 104 x 50 x 10 x 36 7.9 gr.
In Chalk Tunnel near Pit #1 Power Station. Torpid, only
1441 & 1440 in tunnel. Not much fat. Testes 5 mm. epididymis 5 mm.
Testes flabby. Accessories large, 8 mm across, 7 mm antero-posterior.
Accessories weighed 102 mg. Epidid. ducts + spermia, a few mites of latter.

1441 ♂ Corynorhinus rafinesquii intermedius 107 x 56 x 11 x 38 7.2 gr.
In Chalk Tunnel near Pit #1 Power Station. Torpid.
Only 1440 + 1441 in tunnel. Testes 5 mm, flabby. Epididymis 4 mm.
No fat. Accessories large, 7 mm across, 7 antero-posterior. Accessories
weighed 102 mg. Slide same as 1440

1.3 SE

1.3 SE
Kim S. Inverness, Marin Co., Calif.

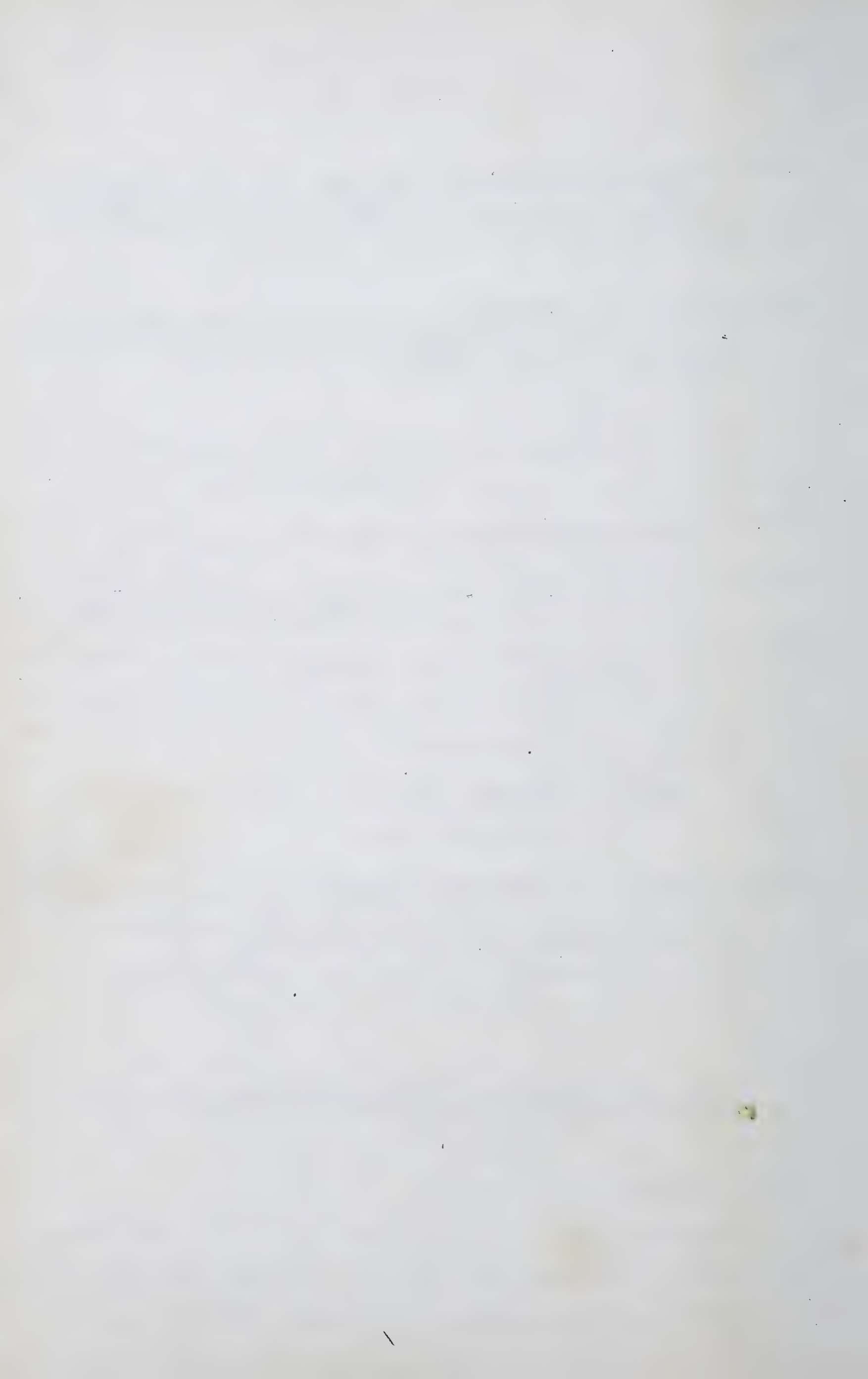
January 27, 1949

1442 ♀ Corynorhinus rafinesquii intermedius 107 x 51 x 11 x 39 9.7 gr. skin, skull + skeleton including band.
Caught by MK in Golden's barn. alone. Torpid. Hanging in precisely same spot as
a Corynorhinus on December 14, 1948 (see notes for Dec 14). Banded: 42-138171
Banded May 30, 1948; had buried young. On Aug. 10 recorded as lactating.
Nipple medium, considerably fat. Rt. horn longer + stouter than left, 2 mm
wide. B.V. conspic. white-sheathed. One med. follicle in left ovary.

Thunderbolt Cave, Modoc Lava Beds National Monument, 4800 ft. Siskiyou Co.
Feb. 5.

1443 ♀ Corynorhinus rafinesquii

Caught Feb. 4. Died on way home. Crept Feb. 5. Nipple large,
Rt. horn of ut. larger than left, b.v. with some white edging. Rt. ov.
with dark patch. Sperm in ut. smear. No sk. marks.



1949

60

1444 ♂ Corynorhinus rafinesquii

Caught Feb. 4. Died on way home. Prep. Feb. 5. Occiput 7 mm. across.
Tlata 5 mm, spidid, 5 mm.

1445 ♀ Corynorhinus rafinesquii intermedius 105 x 49 x 11 x 39

Caught Feb. 4. Died on way home - Prep. Feb. 5. nipple tiny. Uteri
small, 1 mm. thick. Sperm in ut. enser. sk. + sk.

Subway Caves, 4300 ft., Shasta Co., Calif. (11 mi SE Hat Creek)

1446 ♀ Corynorhinus rafinesquii intermedius ^{Feb. 5} 107 x 50 x 11 x 38 9.2 g.

Caught Feb. 3, prep. Feb. 5. nipple tiny. Uterus ^{right horn} 1 mm. thick.
Blood vessels not thick-walled. Right ovary with dark
patch. Left ovary with small follicles.

1447 ♀ Corynorhinus rafinesquii intermedius 104 x 49 x 11 x 38 7.6 g.

Caught Feb. 3, killed Feb. 5. Nipple small. Uterus right horn
2 mm. Blood vessel thick-walled. No large follicles seen.

1448 ♂ Myotis subulatus melanorhinus 85 x 40 x 8 x 13 3.2 g.

Torpid in cave Feb 3, killed Feb. 5. Stomach empty, 2 pellets in colon.

Modoc Lava Beds National Monument, 4800 ft., Shasta Co., Calif. ^{dentured} Cave.

Caught Feb. 5, killed Feb 7

1449 ♂ Corynorhinus rafinesquii intermedius 103 x 47 x 10 x 37 9.2 g.

Tlata 5, spid 5 mm.

1450 ♂ Corynorhinus rafinesquii intermedius 110 x 53 x 10 x 39 9.2 g.

1451 ♂ Corynorhinus rafinesquii intermedius 99 x 48 x 10 x 38 8.1 g.

PEARSON
1949

- 1452 ♂ Corynorhinus rafinesquii intermedius 107 x 51 x 11 x 38 8.5 gr
- 1453 ♂ Corynorhinus rafinesquii intermedius 108 x 51 x 11 x 37 8.4 gr
- 1454 ♂ Corynorhinus rafinesquii intermedius 104 x 49 x 10 x 38 7.6 gr
testes 5 mm. Epidid. 5 mm.
- 1455 ♂ Corynorhinus rafinesquii intermedius 110 x 54 x 11 x 38 9.5 gr
testes 4 mm; Epidid. 4 mm.

modoc Lava Beds National Monument, 4800 ft., Shasta Co., Calif. Indian
Lag Cave.
Caught Feb. 5, killed Feb. 6.

- 1456 ♀ Corynorhinus rafinesquii
MK 823 nipple large, blood vessel conspicuously white-sheathed. Uterus > 2 mm thick.

Ibid, Thunderbolt Cave

- 1457 ♂ Corynorhinus rafinesquii
MK 828 Testes 5 mm, epidid. 5 mm.

Subway caves, ^{4300 ft.} Old Station, Shasta Co., Calif.

- 1458 ♂ Corynorhinus rafinesquii
MK 825 Testes 4 mm. Epidid. 4 mm. accessories large (7 mm. across). Caught Feb. 4. Killed Feb 6

- 1459 ♂ Corynorhinus rafinesquii
MK 826 Caught Feb. 4, Killed Feb. 6.

- 1460 ♂ Corynorhinus rafinesquii intermedius 108 x 51 x 11 x 38 7.8 gr.
Caught Feb. 4, killed Feb 8. Testes 5 mm, epidid 4 mm. Accessories 9 mm across

- 1461 ♂ Corynorhinus rafinesquii intermedius 100 x 48 x 10 x 37 7.5 gr.
Caught Feb. 4, killed Feb. 8. Epidid packed with sperm. In sections: tubules
small, quiet. Not much interstitial tissue.

- 1462 ♂ Corynorhinus rafinesquii intermedius 108 x 51 x 10 x 38
Caught Feb. 4, killed Feb. 8. Testes 5 mm, epidid 4 mm. accessories 9 mm. across.

PEARSON

1949

Modoc Lava Beds National Monument, 4800 ft., Siskiyou Co., Calif. Thunderbolt
Cave

1463 ♂ Corynorhinus rafinesquii intermedius 8.3g.
107 x 52 x 11 x 38
Caught Feb. 5, killed Feb. 8. Testes 5 mm. Epidid. 5 mm. accessories large but smaller than 1462.

1464 ♀ Corynorhinus rafinesquii intermedius 8.5g.
111 x 54 x 10 x 39
Caught Feb. 5, kept cool (45°) until Feb. 8. Then room temp. and fed mealworms.
Injected ~~late~~ early third-month pregnancy urine subcutaneously beginning 5 p.m. Feb. 8. 0.1 cc of ether-washed urine morning and evening until killed 1 p.m. Feb. 12.
Mipple tiny. U.G. about 1 1/4 in. thick. B.V. not thick-walled. No large follicles or ruptured follicles seen.

1465 ♀ Corynorhinus rafinesquii intermedius 8.4g.
107 x 59 x 11 x 36
as 1464 but not injected. Mipple tiny. Uteri less than 1 mm. No large follicles seen. B.V. not thick-walled.

Sentinel Cave, Modoc Lava Beds Nat'l Mon., 4800 ft., Siskiyou Co., Calif.

1466 ♀ Corynorhinus rafinesquii intermedius 8.7g.
109 x 53 x 11 x 38
Caught Feb. 4. Kept warm & fed. Injected with PV as 1464. Mipple small or tiny. Uteri > 2 mm. B.V. not conspicuously thick-walled. Ovaries somewhat orange but no follicles or corpora seen.

1467 ♀ Corynorhinus rafinesquii intermedius 8.3
as 1466 but not injected. Mipple medium. Uteri 2 mm. thick. BV thick-walled. No large or medium follicles.

Probably Sizzly Peak, Berkeley, Alameda Co.

1468 ♀ Corynorhinus rafinesquii 8.2g.
108 x 51 x 11 x 37
Caught Feb. 11 (see note) killed Feb. 15. Kept room temp. and fed.
Mipple tiny. No fat. Uteri 1 mm. B.V. not thick-walled. No follicles or corpora seen in either ovary.

Orinda, Contra Costa Co., Calif.
Feb. 20, 1949

1469 ♂ *Loxys ornatus californicus* 98 x 39 x 12 x 8 6.3 g.
Testis 7 mm. Sperm in epidid.

1470 ♀ *Loxys ornatus californicus* 109 x 42 x 11 x 8 5.2 g.
Uterine horns stout and long (15 mm. across T). Not markedly pregnant,
possibly parous.

San Quentin, Marin Co., Calif.
Feb. 23, 1949

1471 *Loxys vagrans vagrans* 102 x 39 x 12 x 8 6.2 g.
Caught by Mary Koford in salt marsh (Salsicornia). Bulbo-urethral 4 1/2 mm,
testis 7 mm.

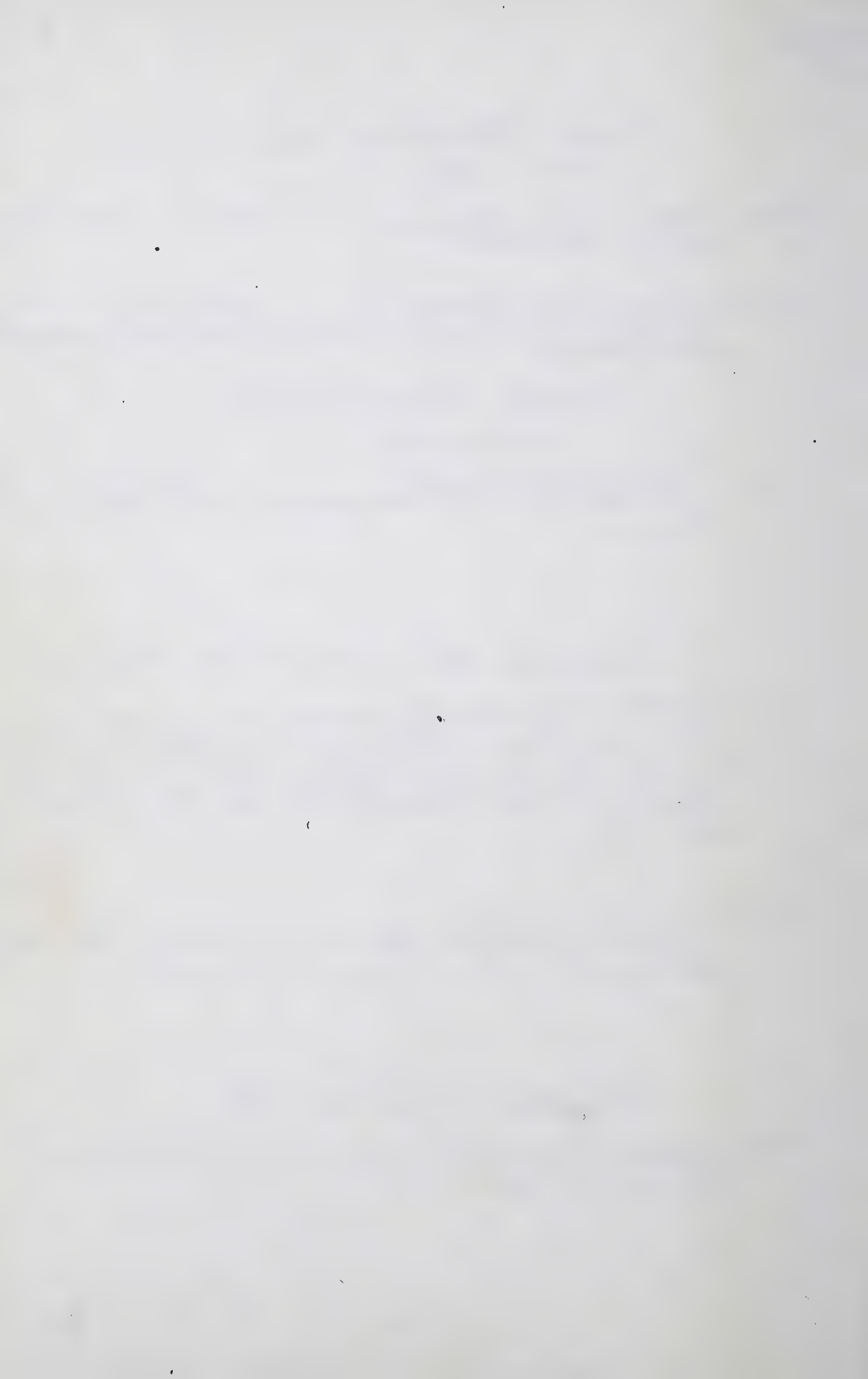
Labyrinth Cove, 4800 ft., Lava Beds Nat. Mon., Shasta Co.

1472 ♀ *Corynorhinus rafinesquii*
captured Feb. 5. Kept room temp. and fed. Injected 5 i.v. antivenin S in
H₂O subcut. on Feb. 18 9^{am}. Killed Feb. 24 11 a.m. Nipple tiny, Ut. 1 mm.,
B.V. not thick-walled. Lumen at crotch containing bloody fluid which can be seen
through walls of uterus and squeezed back & forth, always returning, however, to crotch.
No follicles of any sort seen under dissecting scope in either ovary; nor corpora,
either.

1473 ♀ *Corynorhinus rafinesquii*
cagemate of 1472 but not injected. Nipple small, UG. stout, 2 mm., B.V. thick-walled,
No follicles of any sort visible in either ovary under dissecting scope.

San Quentin, Marin Co., Calif.

1474 ♂ *Loxys vagrans vagrans* 107 x 39 x 11.5 x 8 6.3 g.
Caught Feb. 22, killed Feb. 26. In Salsicornia marsh. Quite smelly (gasoline smell).
Bulbo-urethral 4 mm, testis 8 mm.



PEARSON

1949

Labyrinth Cave, 4800ft, Lava Beds Nat. Mon., Siskiyou Co., Calif.

- 1475 ♀ Corynorhinus rafinesquii -
 caught Feb. 5, kept warm and fed. Injected 25 in. antitoxin 5 Feb. 24 subcut. and
 Feb. 25 (in evening). Killed 8 a.m. Feb. 27. Mipple large. Ut. 1.2 mm., rt.
 horn thicker than left. B.V. not thick walled but mm. Both ovaries with
 small and med. folles. In sections: small + small-med. follicles. No corpora,
 no sperm. Vagina thick stratified.

- 1476 ♀ Corynorhinus rafinesquii
 Cagemate of above but not injected. Mipple large. Ut. 1 mm. B.V. not
 conspicuously white-sheathed but mm. No follicles seen in either ovary.

1/4 NE. of Forbes, Marin Co., Calif.

- 1477 ♀ Sorex vagrans vagrans 99 x 39 x 13 x 9 4.7g.
 March 4, caught by M. Koford and M. Vogel. Uterus large, no emb.

- 1478 ♂ Sorex vagrans vagrans 97 x 36 x 12 x 7 5.7g
 March 4, caught by M. Koford and M. Vogel. Ortho-urethral 4 mm. Scent glands
 distinct. Testes 6.5 mm.

800ft. Aetna Springs, Yuba Co., Calif.March 11, 1949

- 1479 ♀ Corynorhinus rafinesquii intermedius 110 x 51 x 11 x 38
 In attic over kitchen. With M. Koford and W. F. Ott. Air temp. 50°. Torpid. Mipple small
 Uterus pale, B.V. thick-walled, rt. horn > 2 mm. wide. Both horns short and "chunky".
 Both ovaries orange-pink with small + medium follicles, rt. ovary follicles slightly
 larger than left. No corpora seen. Not fat. In sections: r. ov. with small follicles and small
 corpora lutea + large vascular L. ov. with small follicles. 53 cleaving ovum in uterus, < 48
 cells, asymmetrical, no zona. Uterine glands very well developed. No sperm seen at head of uterus. Ovum in
 rt. horn.

- 1480 ♀ Corynorhinus rafinesquii intermedius 109 x 55 x 11 x 37
 caught as 1479. Mipple medium. Uterus slightly vascular, B.V. thick-walled, rt. horn
 about 2 mm. thick and slightly swollen. Left ov. swollen also. Rt. ov.
 with small follicles. Left ovary with small follicles and one pale spherical
 projection possibly corpus luteum. Ovaries orange-pink. Not fat. In sections:
 small folles in rt. and left ovary, also small corpora in left, not vacuolated.
 No sperm seen at tubal-uterine junction. 55 cleaving ovum in uterus, < 11 cells, asymmetrical, no
 zona. Vagina with many sperm. Cornified

- 1481 5 1/2 mi W. of and 1 mi N of Lower Lake, Lake Co., Calif.
March 11, 1949

- ♀ Corynorhinus rafinesquii intermedius 109 x 50 x 10 x 37
 Way under home. Air temp. 44°. With M. Koford and W. F. Ott. Mipple tiny. Not fat. Uterus
 pale. B.V. not thick-walled. Both horns "full" (swollen), about 1.2 mm wide, but rt. horn slightly
 longer although same thickness. No corpora or med. follicles in either ovary or corpora,
 small follicles in sections of R + L ovary and seen corpora in left. 55 ovum and large blob of
 granular just entering oviduct. 1st P.B. and 2nd P.B. chromatin. No sperm seen (over)

in upper conduct but many at tubo-uterine junction. Uterine glands very well-developed.

P. PEARSON
1949

65

1 1/2 mi. N of Redwood City, San Mateo Co., Calif.

1482 ♂ Microtus californicus paludicola March 17 48g.
192 x 50 x 21 x 16
caught by Koford. Dead in trap in Salicornia marsh. Testes 8 mm.
Spermial vesicles 20 mm.

1483 ♀ Microtus californicus paludicola 165 x 50 x 20 x 15 33g
5 embryos. 3 ad. and 2 left. also placental scars 2+2, no milk.
1 mi NE Sulphur Bank Mine, Lake Co., Calif.

March 19

1484 ♀ Corynorhinus rafinesquii intermedius 104 x 50 x 11 x 38
1 mi. N.E. Sulphur Bank Mine. 55° torpid 2 other ♀♀ present. no fat.

1485 ♀ Corynorhinus rafinesquii 108 x 53 x 12 x 39
MK839 1 mi. N.E. Sulphur Bank Mine. 55°. torpid 2 other ♀♀ present. no fat
Banded same house 1946 Nov. 30, recaptured March 8, 1947 same
place, other females present on both occasions. Banded 46-16635

1486 ♀ Corynorhinus rafinesquii 110 x 50 x 11 x 37
2 1/4 mi. SSE Wilbur Spring (Lake Co.) Colusa Co., Calif.
under floor of house. torpid, no others seen.

1487 ♀ Corynorhinus rafinesquii 113 x 54 x 12 x 39
MK839 albert mine, 24 mi. E. Lakeport, Lake Co. Temp. 66°. awake, flying
when first seen. no fat

1488 ♂ Corynorhinus rafinesquii 107 x 52 x 12 x 38
MK840 albert mine as above. somewhat torpid, air 58°, no fat. Testes 4 mm.

1489 ♂ Myotis yuman no sk. no sk.
1 mi. N.E. Sulphur Bank Mine. caught March 19, killed March 20. Testis 2 1/2 mm,
epidid 2 mm. with sperm; accessories large 6 mm. across.

1490 ♀ Myotis calif. no sk. no sk.
albert mine. caught March 19, killed March 20. nipples tiny. Rt. horn slightly
larger but not swollen.

1949

66

Mr. Lucerne, Lake Co., Calif.1491 ♂ *Myotis yuman*

Lucerne. alone in mine tunnel. Testes 3 mm., epidid 2 mm. Sperm in epidid smear. Accessoids 5 mm. across. no sk no sh.

Labyrinth Cave, Modoc Lava Beds Nat'l Mon, Siskiyou Co., Calif.1492 ♂ *Corynorhinus rafinesquii*

Caught Feb. 5 Labyrinth Cave. Killed March 28. No hair on throat or chest. Epidid visible in tail membrane. Testes 4 mm., epid. 3 mm., many sperm in smear, a few of them motile. 7.5 g.

1493 ♀

1.3 SE

X mi S. Inverness, Marin Co., Calif.March 31, 1949→ 1493 ♀ *Corynorhinus rafinesquii*

Caught awake, 6:30 P.M. Also caught 1494 ♀ + 1495 ♀, and at least 3 others not caught. Banded - ~~46-26670~~ 46-26670. Nipple medium. No subcutaneous fat. Uterus quite vascular. Right horn somewhat swollen, bigger than left - 2 mm. thick. Blood vessel conspicuously white-sheathed. Left ovary with two medium follicles - white ringed, and one large follicle. Right ovary with small-medium follicles.

1494 ♀ *Corynorhinus rafinesquii*

Caught as 1493. Banded, 46-26772. Nipple small. Slight amount of subcutaneous fat. Uterus very vascular, right horn larger than left but not swollen. Blood vessel white-sheathed. Left ovary with small + medium follicles. Ditto right ovary. No peri-ovarial fat as there was in 1493.

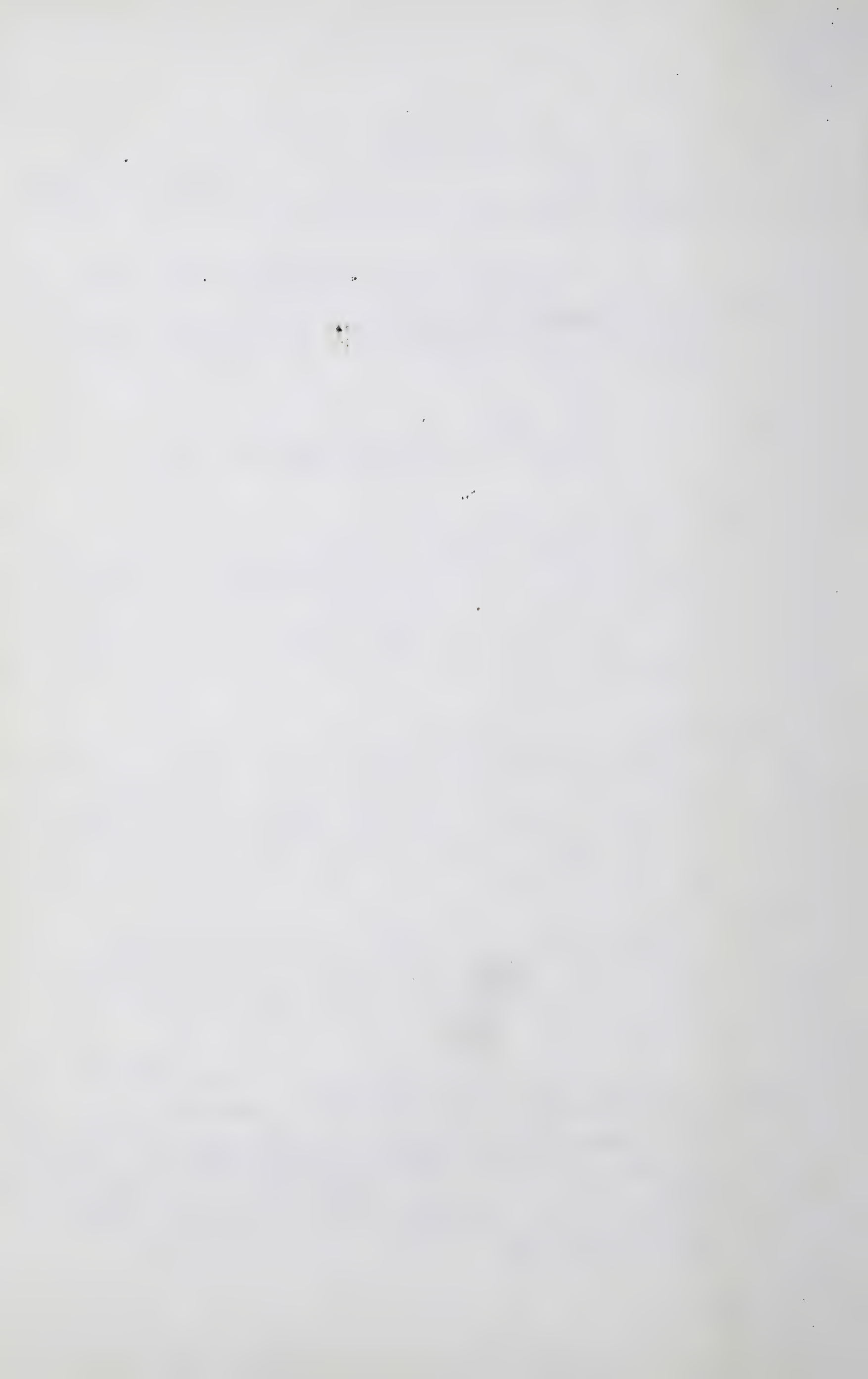
1495 ♀ *Corynorhinus rafinesquii*

Caught as above, with 1493 + 1494. Banded - 46-26715. Nipple small-medium. No subcutaneous fat. Right horn larger than left: Right horn 1.8 mm. Uterus not swollen. Right ovary with 2 pink areas, possibly corpora. Left ovary with small follicles.

1496 ♀ *Corynorhinus rafinesquii intermedius*

Caught as above 7 a.m. in attic with at least 12 others (mostly ♀♀). Temp of attic 47°. ^{April 1} Testes 6 mm. pink, epidid 4.5 mm but much more slender than testis. No sperm in epidid, no subcut. fat. Accessoids 5.5 mm across. Banded 46-26758. Nipple small-medium, slight amt. subcut. fat, uteri 2 mm. thick, rt. slightly larger than left. B.V. white sheathed but not tortuous. Horns not swollen or thickened. No large, med. foll. or corpora seen under dissecting scope. sk. sk + sh.

111 x 53 x 11 x 37 9.3 g.



1949

67

Healdsburg, Sonoma Co., Calif.

- 1499 ♂ Corynorhinus rafinesquii intermedius 100 x 48 x 11 x 36 7.7g.
 Caught March 31 by Mary Kuford. Killed April 1. Epidid in tail membrane but
 not heavily pigmented. Testes 6 mm., pink, epidid 4.5 mm. but much more
 slender than testis. Motile sperm in epidid. No subcut-fat. Accessories 5.5 mm.
 across. In sections: tubules small, inactive, no mitoses.
 Interstitial tissue not conspicuous, cells small.

1.3 SE

Mar. ♂ of Limerick, Marin Co., Calif.April 1, 1949

- 1497 ♀ Myotis californicus caurinus skin + skull 77 x 34 x 6 x 13 3.1g.
~~1500~~ caught flying in barn in evening. Left ovary with large foll. No emb.
- 1498 ♀ " " skin + skull 84 x 36 x 8 x 13 3.3g.
 caught as above. Large foll. or corpora in rt-ovary. No emb.
- 1499 all above
- 1500 ♀ Myotis yumanensis saturatus skin + skull 80 x 38 x 10 x 15 4.0g.
 No emb. Vthi small. No large foll. or corpora seen

Parrish Cave
300 yds SE of La Cava, Shasta Co., Calif.

- 1501 ♂ Corynorhinus rafinesquii no sk
 caught April 2 in Parrish Cave, torpid, 46°. Broke wings. Dead April 3.
 Testis 4.5 mm. pink, epidid 4.5 mm. Accessory large, 7 mm. In sections:
 tubules totally inactive; some interstitial tissue but cells small.
- 1502 ♀ Corynorhinus rafinesquii
 caught April 2 1 p.m. in Parrish Cave. Killed April 3 7 a.m. Mipple large.
 Banded 42-162275. No fat. Uterus 2 mm, rt-horn larger, B.V. ~~thin~~
 white sheathed
- 1503 ♀ Corynorhinus rafinesquii
 as 1502. Banded 41-167981. Mipple small. Uterus 2 mm, rt-horn larger, no fat.
 B.V. white-sheathed. Possibly large foll in left ovary.
- 1504 ♀ Corynorhinus rafinesquii
 as 1502. Banded 42-162314. Mipple large. Some fat. Lymph? under nipple. Uterus 2 mm,
 flat, rt-horn larger. B.V. white-sheathed. Med. foll. in left ovary, rt ov. with
 small white-ringed folls.

PEARSON

1949

Pit River, 3000 ft., 11 1/2 mi. NE of Burney, Shasta Co., Calif.
April 3, 1949

- 1505 ♀ Cory norhinus rafinesquei
 awaked in chalk tunnel at 6 p.m. One other present but escaped. Nipple medium.
 No fat. Uterus 2 mm, fairly flat. B.V. white sheathed. Mast - large foll. in left
 ovary - ~~no~~ small foll. in right ov.

Parrish Cave
300 yds SE of Ice Cave, 4300 ft Lassen Co., Calif.
April 4

- 1506 ♂ Cory norhinus rafinesquei
 caught April 2. Dead on return April 4 a.m. Banded 42-162 238
 Testes 4.5 mm. flabby, greyish, epidid 5 mm. Accessories 7.5 mm across
 sperm in epidid anast. In sections: Many sperm in epidid. Tubules
 totally inactive with no mitoses. Proctod. no interstitial tissue.
- 1507 ♂ Cory norhinus rafinesquei
 as 1506. Testes 4 mm, pale, somewhat flabby. Epidid 4 mm. Accessories 6.5
 mm. Sperm in epidid.

- 1508 ♂ Corynorhinus rafinesquei
 as 1506. Testes 4-5 mm. Epidid 4 mm., with sperm. Accessories 7 1/2 mm.

Pit River, 3000 ft.; 11 1/2 mi. NE of Burney, Shasta Co., Calif.
April 3, 1949

- 1509 ♂ Myotis volans longicus 100 x 46 x 9 x 15
 In chalk tunnel with ♀ Cory and M. yuman, and M. volans. Testes 3 mm.
 Accessories large, 9 mm. across. Killed April 5

- 1510 ♀ Myotis yumanensis saturatus 78 x 36 x 9 x 15
 as 1509. Molemb. Killed April 5

Thunderbolt Cave, 4800 ft., Lava Beds Nat. Mon., Dickinson Co.

- 1511 ♀ Corynorhinus rafinesquei
 caught Feb. 5, kept in zoo and room (45°) and killed April 6, 8.3 g. nipple tiny,
 kept in cage with ♂ 1512. Uterus very small, both horns about same
 size, B.V. not white sheathed. Both ovaries with many small-med. follicles but no
 large ones or corpora seen.



1949

- 1512 ♂ Corynorhinus rafinesquii
 kept as 1511. 7.6 g. accessories somewhat reduced, 6 mm. diam. Testis
 5 mm. fleshy, epidid 4 mm. with motile sperm

1.3 mi SE
1 mi. S. Inverness, Marin Co., Calif.
April 13

- 1513 ♀ Corynorhinus rafinesquii 9.4g.
 Caught 6 p.m. April 12. Killed 8 a.m. April 13. Mipple small. no fat.
 Pregnant rt. horn, sphere 4 mm. diam; vascular. Ovaries with
 small-med. follicles, probably corpus in rt. ovary, tho corpus quite
 pale, paler than rest of ovary.

- 1514 ♀ Corynorhinus rafinesquii intermedius 109 x 50 x 12 x 38 9.4g.
 as 1513. Banded 46-26720. Mipple medium-large. No fat. Pregnant
 rt. horn, sphere 5 mm. vascular. B.V. not conspicuously white-sheathed,
 ovaries with small follicles, no corpus seen under dissecting scope. Banded July 16, 1947
 and May 30, 1948 with young. also recorded March 31, 1949.

- 1515 ♀ Corynorhinus rafinesquii intermedius skin skull & skull 109 x 53 x 11 x 37 9.0g.
 as 1513. Banded 41-167934. Mipple small. just visibly pregnant rt. horn,
 3 mm. across, B.V. white-sheathed. Ovaries with small foll. no
 corpus seen under dissecting scope. Banded Aug. 10, 1948 and recorded lactating.

- 1516 ♀ Corynorhinus rafinesquii intermedius 111 x 49 x 11 x 38 9.2g
 as 1513. Banded 41-167936. Mipple small-med. Both horns of uterus
 vascular & plump, rt. much larger, 3 mm. across. B.V. thick-walled.
 Ovaries with small foll. but no corpus seen with dissecting scope. Banded
 July 16, 1947 adult and May 30, 1948 pregnant and Aug. 10, 1948 lactating.

- 1517 ♂ Corynorhinus rafinesquii 7.8g.
 Caught under Marysma Pambon, Lagunitas, Marin Co., 5:30 p.m. April 12. No
 others present. Killed 9 a.m. April 13. Torpid. Testis $5\frac{1}{2}$ mm, pink,
 somewhat vascular, epidid about $4\frac{1}{2}$ mm. accessories small, 4 mm. across.
 Many motile sperm in epidid. In sections: tubules totally
 inactive, some interstitial tissue but also small.

P. PEARSON

1949

4 mi. E of Blythe, Riverside Co., Calif.
April 14

- 1518 *Epteserus fuscus pallidus* 118 x 47 x 11 x 18 12.5 g
 Caught by Mary Keford April 10th. No emb.
- 1519 " " " no emb. 109 x 43 x 10 x 18 11.5 g
 skull only. stinkier
- 1520 " " " 107 x 41 x 11 x 17
- 1521 ♀ *Tadarida mexicana* 96 x 37 x 9 x 19 7.6 g.
 as 1518. Rt. uterus swollen.
- 1522 ♀ *Tadarida mexicana* 104 x 41 x 10 x 18 7.4 g.
 as 1518, Uteri small.

7 mi. S of Vidal (San Bernardino Co.), Riverside County,
Riverside Co., Calif. (Mountaineer Mine)

April 14

- 1523 ♀ *Myotis ^{velifer velifer} velifer* 92[±] x 39[±] x 9 x 17
 Sent by Mary Keford. Dead on arrival. Somewhat dried. Looked before measuring
- 1524 ♂ " " " " " 95[±] x 39[±] x 10 x 16
- 1525 ♂ " " " " " 87[±] x 39[±] x 11 x 16
- 1526 ♂ " " " " " 94[±] x 43[±] x 10 x 16
- 1527 ♂ " " " " " 96[±] x 44[±] x 10 x 15

1 mi NE Sulphur Bank Mine, 1500 ft., Lake Co., Calif.
April 15 (10 mi. SE Lucerne)

- 1528 ♀ *Corynorhinus rafinesquii* in attic room no sk no sk. 8.6 g.
 Caught 6:30 a.m. Hanging alone under house, torpid. Killed 6 p.m.
 No cory present at 10 p.m. and I scared away at 3 a.m. Banded 46-16727
 Myself medium. Rt. uterus swollen, 4 mm. bump, B.V. thick-walled. No cory seen
 in either cavity under dissecting scope. Banded March 8, 1947 same place. 4 other ♀♀
 in basement at that time
- 1529 ♀ *Corynorhinus rafinesquii intermedius* 111 x 53 x 11 x 38 9.4 g
 Caught 6:30 a.m. Hanging alone under floor of house. Not there at 10 p.m. or 3 a.m.
 Torpid. Banded 46-16637. Killed 6:30 p.m. Myself medium. No fat.
 Bump. rt-ut. 4 mm. across. B.V. thick walled. No large or red follicles or
 corpora seen under dissect. scope. Banded Nov. 29, 1946 same place [2 other ♀♀ present
 at that time] and March 30, 1947 under house [1 other in basement].

1949

71

1530 ♀ Corynorhinus rafinesquii intermedius 110 x 51 x 10 x 37 8.9g.
 Caught 6:30 a.m. in ether room hanging in contact with 1531. Mother present
 at 10 p.m. or 3 a.m. Banded 46-16726. Mipple medium-large.
 Rt. ut. with emb. 3 mm thick but spheroid rather than flat as in pale-preg.
 uteri. B.V. with walls slightly thickened. Small-med. follicle in
 both ovaries. Probable faint corpus in left. Banded March 8, 1947. 4 other ♀♀
 present at that time.

1531 ♀ Corynorhinus rafinesquii intermedius 108 x 50 x 11 x 37 8.8g.
 caught as 1530. Mipple small-medium. Banded 46-16728. Bump in
 rt. uterine horn 3 mm. B.V. thick-walled. Ovaries with small-med.
 follicle but no corpus seen under dissect. scope. Banded March 8, 1947.
 4 other ♀♀ present at that time [2 of them were 1528 and 1530]

Lucerne, 1330 ft., Lake Co., Calif

1532 ♀ Myotis thysanodes thysanodes 103 x 45 x 9 x 21 7.2g.
 caught April 15 7 a.m. in cluster with 11 thysanodes, 4 ♀ gambelensis,
 and 1 ♂ gambelensis. Killed 8 p.m. Uterus puffy but not markedly
 preg. No corpus or large fol. seen under dissect. scope.

Aetna Springs, 800 ft., Napa Co., Calif

1533 ♀ Corynorhinus rafinesquii 9.7g.
 Clustered in attic with other ♀♀. Caught 11 a.m. April 15. Killed 8:30 p.m.
 Mipple small. Lows fat. Fetus in rt. horn, bump 8 x 9.
 embryo 7 mm C.R. with black eye. About front limbs not at all wing-like.
 "hairs" slightly mitten-shaped. Heart of embryo beating after rather
 killed with ether. 60/sec. at 20°. Ovaries with small-med. follicle, no
 corpus seen under dissect scope. ~~Not~~ no appreciable mammary tissue

1534 ♀ Corynorhinus rafinesquii 9.8g.
 as 1533. Mipple medium. Not much mammary tissue. Bump in
 rt. horn 9 x 12, embryo 9.5 mm C.R. with digits beginning to elongate
 and ear folded, with tragus. No corpus seen.

1535 ♀ Corynorhinus rafinesquii 9.9g.
 as 1533. Medium mipple. trace of mammary tissue. Bump in rt. horn
 8.5 x 10, placenta anti-mesometrial. Embryo 8 mm C.R. Digits beginning to
 elongate, ear just separating. No corpus seen in either ovary.

P. PEARSON

1949

Aetna Springs, 800 ft., Napa Co., Calif.

- 1536 ♀ Corynorhinus rafinesquii 10.1 g.
 nipple medium. Some mammary tissue. Bump in rt. horn 8 mm sphere,
 embryo 7 mm C.R. Heart beat 40/min at 20° arm not yet wing-like, ear
 not yet separated: hence not recognizable as bat. No corpora seen.
- 1537 ♀ Corynorhinus rafinesquii
 caught Aetna Springs April 15 11 A.M. Ovary April 16 9 A.M. Fetus in
 rt. horn, bump ca. 8 mm. long. Died April 30. Bump in rt. horn
 10½ mm, flabby, obviously resorbing. Embryo 7½ mm, slightly
 gelatinous
- 1538 ♀ Corynorhinus rafinesquii
 as 1537. Fetus in rt. horn, bump 5.5 mm. long. Killed May 11.
 Nipple small. RT. horn somewhat smaller, about 3 mm. ind. No large oviduct
 follicles seen, possible corpora in rt. ovary.
- 1539 ♀ Antrozous pallidus
 uterine vasculature not nicely pregnant. Might roosting at Sulfur Bank
 mine
- 1540 ♀ Antrozous pallidus
 as 1539. U.G. same
- 1541 ♂ Antrozous pallidus
 as 1539. Spiked black, saved. Testes not saved.
- 1542 ♀ Corynorhinus rafinesquii
 as 1537, Bump in rt. uterus 7 mm. long. Died May 3. Bump 9 mm.
 long, slightly flabby. Fetus looks healthy, 7 mm C.R. Half an kept
 on cellar steps.
- 1543 ♀ Corynorhinus rafinesquii
 as 1537. Nipple large. Bump in rt. horn quite vascular, spherical, 6 mm.
 Died May 4. Bump in rt. horn 8 mm. long. Fetus somewhat translucent.
 R. wing not healthy.
- 1544 ♀ Corynorhinus rafinesquii
 as 1537. Nipple small. Bump in rt. horn quite vascular, 8 mm. long.
 Killed May 3. Bump 9 mm. long, slightly flabby. Fetus a gelatinous blob with eyespots. U.G. saved

P. PEARSON

1949

- 1545 ♀ Corynorhinus rafinesquii
 as 1537. Large bump in rt. horn, about 11mm long. Removed both ovaries.
 marked rt. ear. Stitches came open Sunday (April 15), died April 17.

- 1546 ♀ Corynorhinus rafinesquii
 as 1537, snipp's small. Large bump in rt. horn about 11mm. long.
 Removed both ovaries. marked left ear. Died April 22. RT-horn large & flabby.

- 1547 ♂ Corynorhinus rafinesquii 7.7 g.
 Oyster Springs. Housed alone in atrio with about 60 ♀♀ (pregnant). Caught 11 A.M.
 April 15. Killed 1 P.M. April 16. Testes white, fairly firm; accessories
 small, 2 mm. across. Testes $3\frac{1}{2}$ mm. Epidid much smaller, $2\frac{1}{2}$ mm.
 No sperm in epididymus. In sections: numerous sperm divisions
 but no spermatocytes or later stages seen. Interstitial tissue fairly abundant,
 cells large.

- 1548 ♀ Corynorhinus rafinesquii
 caught in Abbott mine, 24 mi. E. of Lakeport, Lake Co. Temp. 66°. Somewhat
 torpid. With 1487 + 1488 ♂♂. kept alone in cage. Ovary 3/31 rt. horn large
 but no embryo. Killed April 17. Underside of proboscis naked. B.V. thick-walled,
 rt. horn only 2 mm. across (ant.-post.) but quite thick dors. ventrally giving
 a swollen appearance. No filicels of any sort or corpora seen in either
 ovary under dissecting scope.

San Quentin, Marin Co., Calif.

- 1549 ♂ Loxia vagans vagans 87 x 36 x 13 x 7 4.0 g.
 caught March 23, died April 27. Testes 6 mm.

1 mi. NE Sulphur Bank Mine, 1500 ft., Lake Co., Calif.
 (10 mi. SE Lucerne)

- 1550 ♂ Myotis yumanensis saturatus 82 x 35 x 9 x 14
 caught April 15, killed April 26. Testes 3.5 mm.

- 1551 ♂ " " 92 x 40 x 9 x 15



1949

74

1552 ♀ Myotis yumanensis saturatus
 caught April 15, killed April 26. ~~no embryo~~

92 x 40 x 10 x 14

Aetna Springs, 500ft, Napa Co., Calif.
 April 28, 1949

1553 ♀ Corynorhinus rafinesquii
 In attic with 47 other ♀♀. Nipple small-medium, no milk. Vaginal opening very small. Considerable mammary tissue. Swelling in rt. horn 13 mm, fetus CR 12 mm. No med. follicles or corpora seen with naked eye. Some fat

1554 ♀ Corynorhinus rafinesquii
 as 1553. Nipple medium, no milk. Vagina open. Some fat. Some mammary tissue. Fetus in rt. horn. Swelling 17½ mm, fetus 14½ mm, ears + fingers better developed than above (1553). No med. foll. or corpora seen with naked eye.

1555 ♀ Corynorhinus rafinesquii 10.0 g.
 as 1553, killed noon April 29. Nipple small. Vaginal opening tiny. Bump in rt. horn 13 mm long, fetus 12 mm. CR. Small follicles in rt. + left ovary under dissect scope, no corpora or large foll.

1556 ♀ Corynorhinus rafinesquii
 caught as 1553. Killed 8 AM April 30. Nipple small-medium. Kept warm, not fed. Bump in rt. horn 14 mm long. No corpus, large, or medium follicles seen in either ovary. Longest digit 5 mm. Fetus 11½ mm, looks healthy.

Berkeley, Alameda Co., Calif.

184 x 38 x 22

1557 ♂ Scapanus latimanus
 caught by Larry Richards May April 23, 1949, killed May 7. Testes 3 mm. Fat.

P. PEARSON

1949

- 1558 ♀ Corynorhinus rafinesquii
 Caught Jabyruth Cave, Woodlee Farm Beds, Feb. 5, 1949. Kept in all glass steps.
 With ♂ on March 26 + 27. April 17 preg: both horns of uteri small, rt. horn slightly
 thicker. Small-med. follicles seen in rt. ovary. Left not examined. Self fed
 until killed May 9. Uterus small, rt. horn slightly larger. Mippl small. Ovaries
 with small follicles only (under dissecting scope)

Sotra Springs, 800 ft., Napa Co., Calif.

- 1559 ♀ Corynorhinus rafinesquii
 caught April 28. Kept in warm room [dark room]. Killed May 9.
 Right horn swollen, about 5 mm. long. but not spherical. Obviously
 resorbing. Mippl small.
- 1560 ♀ Corynorhinus rafinesquii
 caught April 28. Kept in warm room [dark room]. preg May 9.
 Small vascular bump. 5 mm. Looked healthy although much smaller than
 the bumps in the colony 2 weeks ago. Lived up again. Killed May 30.
 Mippl very small. No signs of fetus. Rt. horn slightly larger than left but only
 2 mm ant.-post. O.V. not conspicuously white-shedded but probably because uterus is
 so pale as a background. B.V. tortuous. Ovaries with small-med. follicles.
- 1561 ♀ Corynorhinus rafinesquii
 caught April 28. Kept in cold [bone] room. Killed May 9. rt.
 horn large but bump 7 x 4 1/2 mm is shriveled, not turgid + spherical.
 no trace of fetus
- 1562 ♀ Corynorhinus rafinesquii
 caught April 28. Kept in cold [bone] room. Killed May 9. Uterus
 as above. no trace of fetus
- 1563 ♀ Corynorhinus rafinesquii
 Caught April 28. Kept in warm room [Dark-Room] Killed May 9
 but flabby + irregular-shaped. no trace of fetus. Uterus large
- 1564 ♀ Corynorhinus rafinesquii
 caught April 28. Kept in warm room [Dark-Room] Killed May 9
 but not turgid. no trace of fetus. Uterus large [5 mm]

P. PEARSON

1949

1565 ♀ Corynorhinus rafinesquii
Caught April 28. Kept in cold [Bowl] room. Killed May 9. Rt. horn large, flabby,
no signs of fetus.

1566 ♀ Corynorhinus rafinesquii
Caught April 28. Kept cold [Bowl Room]. Aborted May 10. Fetus with
head $8\frac{1}{2}$ mm. long, CR about 13 mm. Long. Killed May 10. Ventral
furmet. Mipple small. Uterus muscular but collapsed, the rt horn
8 long x 4 ant-post x 5 dorso-vent. Ovary empty.

1567 ♀ Corynorhinus rafinesquii
Caught April 28. Kept warm [Dark Room]. Aborted May 11. Fetus with
head about $8\frac{1}{2}$ mm. long, CR about 15. Killed May 11. Rt. horn
collapsed, sudden part of int. long. Empty.

Tunnel nr. Lucerne, Lake Co., Calif.

1568 ♂ Corynorhinus rafinesquii 8.1 g.
Caught May 12 in afternoon in tunnel at Lucerne by MK, CK, and SB. Killed
8:30 a.m. May 14. Testes $5\frac{1}{2}$ mm. epidid. dark, not more than 3 mm. Testis
white, not flabby, tubules not visible to naked eye. Accessories very small,
less than 2 mm. long. No sperm seen in epididymus. In sections:
many stg. divisions, some very nice metaphases. no sperm. No lumen
& interstitial cells large, fairly abundant.

1569 ♂ Myotis lucif. or yuma
Testes 3 mm., phimp. accessories very small. Caught by MK Lucerne tunnel at night
May 12. Killed May 14.

Aetna Springs, 800 ft., Napa Co., Calif.

1570 ♀ Corynorhinus rafinesquii
Caught Aetna Springs April 28. Kept in warm room [Dark room]. Aborted May 15.
Fetus eaten except rostrum which appeared same size as that of 1571 which had
head length of 10 mm. Mipple large. Some bloody discharge when killed May 16.
Right horn 6 mm. long, 5 mm. ant.-post, 3 mm. dorso-vent.

1571 ♀ Corynorhinus rafinesquii
Caught Aetna Springs April 28. Kept in cold room [Bowl Room]. Aborted
May 15. Killed May 16. Fetus with head 10 mm. long. Others aborted May 5 with
skull 8 mm. and May 10 with skull $8\frac{1}{2}$ mm. Mipple large. Rt. Uterus large &
collapsed.

P. PEARSON

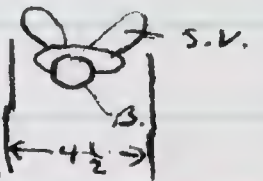
1949

- 1572 ♀ *Corynorhinus rafinesquii* 9.0 g.
 caught March 19 1 mi. NE Saffron Bank Mine. air 55°. Torpid. In Basement with 1484 + 1485. Operated April 17, quite vascular, healthy-looking spherical swelling in rt. horn $4\frac{1}{2}$ mm. diam. Killed May 27.
 Nipple medium. Not preg. Rt. horn larger than left but not swollen. Rt. ovary with small + medium follicles, left ovary possibly with corpus

Aetna Mines, 1100 ft., Napa Co., Calif.

May 29, 1949

- 1573 ♂ *Corynorhinus rafinesquii* 8.6 g.
 caught 11 a.m. May 29 in burrow from roof of 2 tunnels at sharp bend. Torpid. Only bat found in this tunnel but breeding colony in adjacent tunnel. Killed 9:30 a.m. May 30. Tail of epid. easily visible in tail membrane. Accessories small, $4\frac{1}{2}$ mm. across, seminal vesicle 2 mm. long. Testes pale, firm, 6 mm. epidid 4 mm. many sperm in epid. smear but no motile ones seen in water smear. No fat.
 In sections: epidid. packed with sperm. Individual interstitial cells large but not a large amount of interstitial tissue. Many spermatocytes? dimensions and a few very large spermatogonial dimensions, but no sperm or oids in testis tubules.



- 1574 ♀ *Corynorhinus rafinesquii* preg? 8.7 g.
 caught 11 a.m. in tunnel with lactating and nursing ♀♀ and young from 2.2 g. to 4.6 g. This one apparently not preg. or lactating. Banded. Killed 10 a.m. May 30. Was banded over killed in month 1949. 161787. Nipple small. Uterus small, rt. horn very slightly thicker than left, B.V. not conspicuously inflated - sheathed. Ovaries quite large with tiny follicles, no corpora or med. foll. seen under dissecting scope. Rt. horn 1 mm. ant.-post. In sections: left ovary with small nucleated corpus luteum, much interstitial tissue. No large or med. follicles. Many leucocytes + nucleated epithelial cells in uterus.

- Baby 1575 ♂ *Corynorhinus rafinesquii* 60 x 23 x 10 x 19 x 16 3.6 g.
 Forearm 22 mm. Fuzzy - separated from mother about noon May 29, killed 12 a.m. May 30. Bladder very full. Testes vascular, 3 mm; epid. fragmented, accessories tiny $< \frac{1}{2}$ mm. Skull 14.5 mm long. In sections: tubules small, inactive. Interstitial cells large, much interstitial tissue.

- Baby 1576 ♀ *Corynorhinus rafinesquii* intermedia 55 x 18 x 10 x 15 x 11 x 2.6 g.
 Born just before or just after capture noon May 29. Umbilicus still attached. Baby able to "climb" and cling. Weighed 2.6 g at that time. When killed May 30 10 a.m. after being separated from mother weighed 2.6 g. Forearm 17.5 mm. No fuzz. Umbilicus dry but still attached when killed. Skull 13.5 mm. long.



1949

78

Aetna Mines, 1100 ft., Napa Co., Calif.

1577 ♀ Corynorhinus rafinesquiei 54 x 19 x 9 x 13 forearm 18 mm

~~young~~ (lightest of those examined. Recorded as 2.2 g. when removed from its mother at noon May 29. Killed 10 a.m. May 30. Weighed 2.2 g. on triple beam balance. Skull 14 mm long. Saved in formalin.

1578 ♀ Corynorhinus rafinesquiei
Brought back from Aetna Springs April 28 and kept in cold room (bore room) + fed. Killed May 30. Myppl. large. Fetua in Rt. horn: swelling 17 x 10 [~~ant-post~~] x x 9 [dorso-vent]. Fetua 17 mm. C.R. ♂ made spontaneous movements and heart was beating. Placenta 9 x 6 mm. No corpora seen under dissect. scope. Fetua a) ♂ 37 x 9 x 7 x 9 forearm 9.5 skull 11 mm.

1579 ♀ Corynorhinus rafinesquiei 8.6 g.
Caught Aetna Mines May 29. Gave birth to young May 30 about 10 a.m. Killed May 31 5 p.m. = 30 hrs. post-partum. Myppl. very large, milk efferent. Vaginal opening quite large, somewhat "raw" looking. Mammary tissue oval, about 8 x 15 x 1.5. Rt. horn of uterus still bright and "collapsed," 6 mm. long and 5 mm. dorso-vent. when flattened. Only small follicle seen in both ovaries with dissecting scope, N.B. There is a slight possibility that this ♀ is only 6-24 hrs post-partum. In sections: much maculated corpus luteum in left ovary. Interstitial tissue very luteal-like. No large or med. follicles.

1580 ♂ Corynorhinus rafinesquiei 52 x 18 x 9.5 x 13 x 12 forearm 16 2.2 g.
Baby of above ♀. Moves + chirps well, squeaks loudly, skull 13 mm long.

1581 ♀ Corynorhinus rafinesquiei
Caught Aetna Springs May 29. Baby born morning of May 31. Forearm 15 mm. June 1, young looks screaming, weighs 2.0 g. June 3 baby dead, killed mother. 7 mm. of dried umbilical cord still present on baby. Forearm still 15 mm. Myppl. very large, milk efferent. vagina quite open but not bruised or bloody. Rt. horn large + collapsed, 8 mm long and compressed ant.-post. so that it measures 5 mm dorso-vent. Skull of baby 13 1/2 mm. long, a ♀

Inverness, 100 ft., Marin Co., Calif.

June 2.

- 1582 ♀ Corynorhinus rafinesquii intermedius 98x48x11x38 8.6g.
Caught Inverness June 2 in Lendi's barn. Banded 42-138194 as a furred
young on May 30, 1948. In Golden's barn March 31, 1949. Mipple
tiny. Rt. horn slightly stouter than left. Rt. artery tortuous but not
conspicuously white-streaked. Ovaries peach-colored, no large follicles.
skin skull skeleton + U.S. saved. Killed June 3 but both small.

- 1583 ♀ Corynorhinus rafinesquii
caught Inverness, Lendi's barn, June 2. Killed June 3. With 1582 and many
pregnant + lactating ♀♀. Mipple tiny. Others small. Rt. horn
slightly stouter than left. Ovaries peach-colored, no large follicles. Saved
pelvis.

Aetna Mines, 1100 ft., Mono Co., Calif.

June 4.

- 1584 ♂ Myotis evotis 88x45x9x22 4.2g.
night roosting? Testis 3mm. skin + skull
- 1585 ♂ Myotis evotis 82x40x10x22
Testis 4mm. In boarded-up tunnel ½ mi N of pair by road, skin + skull

June 5

- 1586 ♀ Corynorhinus rafinesquii 9.5g.
In North Tunnel in a.m. with colony of pregnant + nursing ♀♀. Banded over
hitchhiker April 28, 1949; not caught May 29. This is only one on June 5 not preg.
or nursing. Banded 161795. Mipple small, uterine horns small, rt.
slightly stouter than left; no med. or large follicles in ovary.

- 1587 ♀ Corynorhinus rafinesquii
Brought home June 5. Banded 161756 April 28. Pregnant May 29. with baby
June 5. Died about June 13. Uterus mostly regressed, 2½ mm. ant-post.
after fixation in Bouin's. Baby died June 11. Mother killed. Mother
had been pregnant when captured May 29. Baby on June 5 weighed
4.2g, forearm 25mm. Baby when it died: forearm 26mm.

1949

80

Mendocino Co.?

1588

Phenacomys longicaudus

84 x 29 x 13½ x 5 4.1g.

mother caught by M. Koford et al.

This one born May. , died June 9, 1949

Cassel, 3100 ft., Shasta Co., Calif.June 12, 1949

1589

Corynorhinus

Caught alone, daytime, attic of big house.

Testes 6.5 mm long, pale. Epidid. about 4 mm.

Accessories small — 4 mm across both seminal vesicles, each 2 mm long.

1590

♀ Myotis lucifugus carissima
no embryos.

91 x 42 x 10 x 15

1591

♀ Myotis lucifugus carissima
10 mm 1 R. embryo

92 x 38 x 10 x 15

1592

♀ Myotis lucifugus carissima

no emb.

95 x 42 x 10 x 15

1593

♂ Myotis lucifugus carissima

82 x 35 x 10 x 16

1594

♀ Myotis lucifugus carissima

84 x 37 x 10 x 15

Hot Creek Power Plant No. 2, 3000 ft., 3 mi. N. of Cassel,Shasta Co., Calif. June 12, 1949

1595

♂ Myotis yumanensis testes 3 mm.
oatunatus

85 x 38 x 9 x 14

Pit River, 3,000 ft., 11½ mi NE Burney, Shasta Co., Calif.June 12, 1949

1596

♂ Myotis calif. testes 3 mm.

82 x 37 x 7 x 14

~~85 x 38 x 9 x 14~~

1597

♂ " " Testes 3 mm

78 x 38 x 7 x 14

1598

♂ Eptesicus fuscus testes 7 mm.

122 x 49 x 11 x 16

P. PEARSON

1949

Aetna Springs, 800ft; Mono Co., Calif. June 30.

- 1599 ♀ Corynorhinus rafinesquii intermedius 101x47x11x36
 caught in attic over kitchen June 30, 8 a.m. (with band)
 forearm in field, 43 mm; at home, 44. WT. in field, 8.2; at home 7.7 g.
 Killed 2 p.m. Banded C 161800. Both horns same size, about .8 mm
 ovaries large. Stomach mostly empty. No trace of insects in
 stomach or intest. White cheese squeezed out of nose gland. Banded May 29
 when she weighed 2.8 g. Caught June 5 4.4 g. and 27 mm.
- 1600 ♂ Corynorhinus rafinesquii intermedius 95x48x11x35
 caught & killed as 1599. Banded 49-123058 ~~June 5~~ June 5. 1603
 forearm in field; at home 43. WT. in field; at home 7.5 g (with band).
 Accessories small, 3 mm across, sem. ves. 2 mm. long. Testes pink,
 4 mm. Epid smaller; 3 mm. Testis definitely scrotal.
 Stomach & intestines with considerable milk, no insects. White
 cheese squeezed out of nose gland. In sections: tubules small & inactive, much
 interstitial tissue. good slide for interstitial tissue.
- 1601 ♀ Corynorhinus rafinesquii
 caught in attic June 30, 8 a.m. Killed 9 a.m. weighed in field, X; forearm
 in field, X; at home 44 mm. Banded C-161798. This was
 largest of young weighed on May 29 (4.8 g). Much milk in stomach
 and intestines, no insects. Rt. horn of uterus after fixation definitely
 longer than left. On June 5 6.6 g. and 35 mm.
- 1602 ♂ Corynorhinus rafinesquii 7.3 g
 caught in north tunnel of Aetna Mines 5 p.m. June 29. Killed June 30.
 Testes whitish, firm, 7 mm. Epid 3+ mm but much thinner than
 testis. No sperm seen in smear of ~~testis~~ epid. Nose gland exudes white
 drops when squeezed. In sections: ~~no sperm~~ many 2nd stage & dominos.
 No tide. Interstitial cells fairly large but not much interstitial tissue.
- 1603 ♀ Corynorhinus rafinesquii ?
 caught over attic. 8 a.m. June 30. Killed 5:30 p.m. Banded C-161708.
 Nipples very large. Milk efferent. Nipple 3 mm. long.
 Mammary tissue elliptical 17x10 mm. reaches under mid root and
 around dorsally onto scapular region. Uterus completely regressed
 rt. horn slightly larger than left; about 1.2 mm ant.-post. Ovaries
 with small follicles. P. V. small. White drops exude when nose gland
 is squeezed. B. V. white-sheathed. ~~ovaries with small follicles~~
~~with small follicles~~. Mother of 1600. Banded April 28 small nipples, May 2 of preg;
 June 5 with baby. In sections: vacuolate, remnant of corpus in rt. ovary 52.
 no large or med. follicles.

P. PEARSON
1949

- 1604 ♀ Corynorhinus rafinesquii 9.4 g.
Caught in attic at Otero Springs June 30 8 a.m. Killed 6 p.m. Small cut on skin of belly. Nipples very large. Milk epressible. White cream squeezed out of nose gland. Mammary glands 17 x 12. Uterus almost abt. totally repressed, rt. horn larger, 1.6 mm. B.V. white-sheathed but not strikingly so. Under dissect. scope; ovaries with small-med. follicles. Banded 161779 April 28, used in nipples; May 29 with young 2.8 g; June 5 with young 4.4 g 27mm; June 30 young 7.2 g 43mm. Mother of 1599. 54 - trace of corpus luteum with large vacuoles. Uterus with pink detritus and leucocytes in lumen.

- 1605 ♂ Corynorhinus rafinesquii 8.5 g.
in attic with ♀ and young June 30. Killed June 30 7 p.m. Looks adult because of size and brown pelage, and because not banded. White cream epress. from nose gland. Testis 7 mm., perin. Epidid much smaller, 4 mm. No sperm in epidid. smear. Accessories small, 3 mm. across. Sem. ves. 3 mm. long. In sections: numerous spg. dimensions; no spermatocytes seen. Some interstitial tissue, cells large.

- 1606 ♂ Mustela frenata latirostris 466 x 178 x 47 x 28 319.3 g.
Weasel
Caught by Benson + Koford June 28, Scripps Institute, La Jolla, San Diego Co., Calif. Sent alive. Accession 8102. Killed Oct 3, 1949 - testes 8 mm.

- 1607 ♀ Mustela frenata nevadensis 402 x 150 x 43 x 24 testes 6 mm
Weasel
4 mm. byrd. S. Pine Crest, 6500 ft., Trachum Co., Calif.
Caught by Thane Rhiney June 29, 1949, crossing road at night with 4 other young ones. 14 ft alive. Turned white in captivity. Died Dec. 14, 1949.

- 1608 ♀ Microtus longicaudus sierrae 177 x 64 x 23 x 15 g
caught July 4 in fir woods along stream. Died July 6. Uterine scars.

Aetna Mines, 1100 ft., Napa Co., Calif.

- 1609 ♀ Corynorhinus rafinesquii forearm 44 8.5 g.
Caught Aetna Mines May 29 with young (1610). Killed July 7. Baby also killed July 7. Nipple large. Milk epress. Rt. horn larger than left, 2 mm. ant. post. Ovaries large, pale, small follicles. B.V. conspic. white-sheathed. Temp. dropped May 30 [lactating]

- 1610 ♂ Corynorhinus rafinesquii
son of 1609 - forearm ant.
May 30 - 27 mm
31 4.4
June 1 - 27
2 - 29 1/2
12 - 31 4.7
16 - 32
27 - 33 5.1
30 - 35 4.6
July 7 - 34 4.5
Testes 3 mm. when killed

PEARSON

1949

- 1611 ♀ *Zapus princeps pacificus* [167] x [77] x 31 x 13
collected by Dr. Gould, July 10, 1949, $3\frac{1}{2}$ mi SE Arroyo, Plumas Co., Calif.
no emb.
- 1612 ♀ *Zapus princeps pacificus* 240 x 137 x 30 x 14
collected by J. Davis July 11, 1949, Reid's meadow, 7500 ft., Sierra Nat. For.,
Madera Co., Calif. 5 emb. Died July 12

Knapville, Madera Co., Calif., July 22.

- 1613 ♂ *Corynorhinus rafinesquii*
anals in tunnel, alone. Testes 7 mm. accessory tunc, 4 mm. across,
seminal ves. 2 mm. long. Pelage looks adult. ^{many mitoses but no sperm in tubules} or epidid. Interstitial cells not conspic.
- ~~1614~~ Reid Mine, 1750 ft., Yolo Co., 1 mi NE Lake-Madera-Yolo Co. Jct.
- 1614 ♂ *Corynorhinus rafinesquii* ^{male} 1 p.m. in tunnel with 1615-1617. Testes 6 mm. white,
accessory tunc, 3 mm. across, sem. ves. 2 mm. long. Pelage looks adult
many mitoses, no sperm in tubules or epidid. Interstitial cells not conspic.
- 1615 ♀ *Corynorhinus rafinesquii* Torpid in tunnel with 1614-1617. Nipple med large,
milk expressible but no mammary tissue. Uterus small. Rt. horn
shorter than left, 1.5 mm. ant.-post. Pelage looks adult.

- 1616 ♀ *Corynorhinus rafinesquii intermedius* 106 x 52 x 10 x 37
Caught 1 p.m. July 22, killed 11 a.m. July 23. Nipple medium, milk expressible, but
only a trace of mammary tissue. Uterus medium, Rt. horn larger, 2 mm.

- 1617 ♂ *Corynorhinus rafinesquii intermedius* 107 x 50 x 10 x 38.
Caught 1 p.m. July 22, killed 12 noon July 23. Testes 7 mm. accessory tunc 3 mm. across
sem. ves. 2 mm. long. many mitoses, no sperm in epidid. or seminal tubules.
considerable interstitial tissue but not conspic.

- 1618 ♂ *Microdipodops*
Caught Fletcher, Mineral Co., Nevada, July 25-27, 1947. Died July 29-30, 1949
died July 30

P. PEARSON

1949

Aetna Springs, 800 ft., Napa Co., Calif.1619 ♀ Corynorhinus rafinesquii

caught Aug. 2 1949 over kitchen at

C-161782 Aetna Springs. Banded.
nipples large. Rt. horn about 1.8 mm.

Journal

Clear Lake, Lake Co. Calif.

- Sept. 30 Drove to Clear Lake with Carl & Mary Kopford. ^{+AKP + Rolt + Carol} Stopped in afternoon at abandoned house 10 mi S.E. Lucerne. Myotis yumanensis in cracks, bathing suit, etc., Corynorhinus in Basement. Went into 2 tunnels at Lucerne in afternoon and early night and found Myotis yuma + M. thysanodes.
- Sept. 31 Tunnels again in morning (see Mary's notes) and house again. In latter got ~~not~~ Corynorhinus and in the barn ~~on~~ ^{early} got 2 Eptesicus and several Tadarida. Both kinds in same cracks.

Pearson
1948

31

Lumness, Marin Co. Calif.

Oct. 16 Visited the Corynorhinus barn 1 mi S of Lumness in the afternoon. Found 3 cory in the attic, quite awake and flew readily down the stairs and hung up in the heater room. Shot 2 of them, the third got away. (Benson had reported there here 2 weeks ago. Both mice were females, both banded.

Full moon. Saw 2 kinds of bats flying at dusk over edge of ranch: one sp. was large, narrow-winged, fast flyer; other small, slow but rather straight flyer. Picked up a Peromyscus in a damp woods at 4 p.m. It was hopping rather feebly over the leaves like a toad. Seemed sickly and had several fleas + wet inguinal region.

Went back to the barn at about 9:15 p.m. Many myotis gymnaeensis flying at bottom of stairs and in heater room, also upstairs in main room. at least 8 were in a crack behind a board on the stair landing. They had not been there in the afternoon. Shot several of them, as well as one antrozous in the main room. In the middle garage downstairs were a few more My. gymnaeensis and 2 thysanodes which I shot. all these collected had full stomachs.

Oct. 17 Returned to the barn about 10 a.m. Shot one more Corynorhinus (unbanded[♂]) in the garage (perhaps the one that escaped yesterday). No other bats found. None behind board on landing where the gymnaeensis had last night. All bats of all species were fat.

Oct. 20 Returned to Lumness with Mary + Carl Koford and AKP et al. Went to the Rite-Price Market and asked for Lewdi as per instructions. Lewdi was away but one of the other people working in the store [Cousen?]

1948

Happened to be the owner of the bat barn we were looking for. The barn is just west of the main street of Limerick, many droppings in the attic but probably several weeks old. Owner said that only a few weeks ago there were "not hundreds but thousands of bats" roosting there. When we looked at 4 p.m. there was only one, a banded female Corynorhinus who escaped.

Went back to the Golden barn 1 mi. S. of Limerick and caught one banded female Corynorhinus and about 6 Tadarida before dark. After supper (night hazy & overcast) found Myotis yumanensis as before. Also a few M. californicus. Checked again at midnight and Koford at 4 a.m., but only a few more yumanensis.

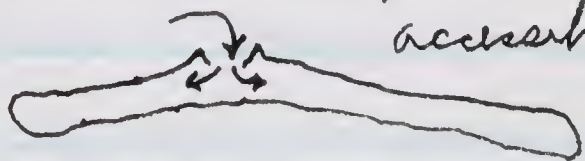
Came home ~~by~~ around the north rim of the Bay. Stopped at several batting-walking places, but no bats. One very promising cluster of bays. near Black Point had only owl pellets.

Journal

Subway Caves, 11 mi. SE Hat Creek, Shasta Co., Calif.

Nov. 6

Left Berkeley supper time yesterday with aunt + Carol. Drove up 99 W. to about 15 mi S of Red Bluff. Camped in field about 10 p.m. where the first rollinsere starts. Had the good fortune to sleep a few yards from some burrowing owl holes. Just at daybreak 3 or more owls returned to these holes. Saw them flying and alighting near us and squeaked two of them to right over us. They alight on the ground in preference to fence posts and run like quail. The holes were badger-size on top of a mound. Some had white droppings and feathers in them, two had a pellet. One was red-colored containing insect remains, the other mammal but no skull. Left about 8 a.m. and arrived at Subway Caves at lunch time. They are two caves (in reality one with an opening in the middle) accessible through a large crater. They are smooth clean tunnels, branched, looking like man-made tunnels big enough for a motor car, quite dry. ♂ and ♀ Corynorhinus were hanging singly and conspicuously, nicely spaced, from the ceiling. Two or three Eptesicus were seen in one crack but could not be dragged out. Caught 6 females and 3 males (random catch) and removed them.



Then went hunting for other caves. Found two on the Rim Rock Ranch about a mile south of here. One was low-celebrized, beaded with moisture, had ice stalagmites, but no bats. The other had 3 ♀ Corynorhinus which I took. It was a dry cave similar to Subway but

1948

smaller. Went back to subway at 7:30 and put a pine cone under each Cory. Some Corys were flying. One Eptesicus, semi-torpid was on a sub wall near the crack where I had poked before, and 2 semi-torpid Myotis seemed to be just emerging from a ceiling crack.

Went back in at 9:15. a few Cory were flying and a few Myotis? looked like gambianensis. Many Cory had shifted positions. Caught a copulatory ♂ and ♀ (see 1362). Released the male. Caught another (or same) active male a few minutes later, but only removed the mated ♀. Most of those hanging were torpid, but about a half dozen had ears unfurled or actually flew (total in south cave at this time about) plus 4 or more in north branch.

During the afternoon saw numerous chipmunks & Callosperm. Several flocks of geese went over high, heading south.

Mon. 7 Day yesterday had been mostly overcast, occasionally sunny. Flurry of sleet at 7 p.m. but later clear. Heavy frost. ~~and~~ Car and milk bottles in car froze up.

Went back into caves about 10 a.m. to check up on who moved. Had put pine cones under all of them at 10:30 p.m. Summary

5 ♀♀ not above cones. ^{recorded as} Vagina groovy in 2 of these cases.

9 ♀♀ above cones (hence had not moved) 8 had been recorded as vagina groovy, other nothing mentioned. The latter and one other presumably had moved between 7:30 + 10 p.m. but not after 10.

4 ♂♂ not above cones (hence had moved)

0 ♂♂ with cones, but in left-hand cave 3 ♂♂ had moved before 10 o'clock but did not move after



P. PEARSON

1948

2 ♂♂ and 1 ♀ in a corner of the cave that had not been marked.

Total surviving	15 ♀♀	and	9 ♂♂
Removed yesterday	7 ♀♀	and	4 ♂♂
	22 ♀♀		13 ♂♂

about 3:30 p.m. we found that the left cave has a branch that goes past the rock slide that blocks it. This is much the longest branch of any: fairly warm and wet. In it we found only 6 bats: 5 ♂♂ and 1 ♀. Hence total score for both caves was 22 ♀♀ and 18 ♂♂.

at 1 p.m. went cave hunting with a boy, Brent Parrish, of Rain Rock Ranch, Old Station, Shasta Co. Found one very good *Corynorhinus* cave a bit SE or E of the Ice Caves that we were in yesterday. Mostly females. Found one pair, ♂ and ♀, mounted, both torpid. Nearly fluid could be expelled from ♀. Another cave 1.6 miles N of Subway had a very narrow opening and only one large chamber. Contained 1 *Cory* ♀.

Went back to Subway in the evening. Only saw about 2 *Cory* flying in the course of 3 trips through the cave, yet considerable activity must have been going on (see below). Of the 18 we had examined in the morning and hung up on the side walls, only two remained where hung at 8:30 p.m., about usual number on ceiling. (By tomorrow morning only 1 remained where put).

at 8:35 on first trip through in evening encountered 3 ♀♀ clustered together. Captured them - all torpid. at another point (also in south branch):

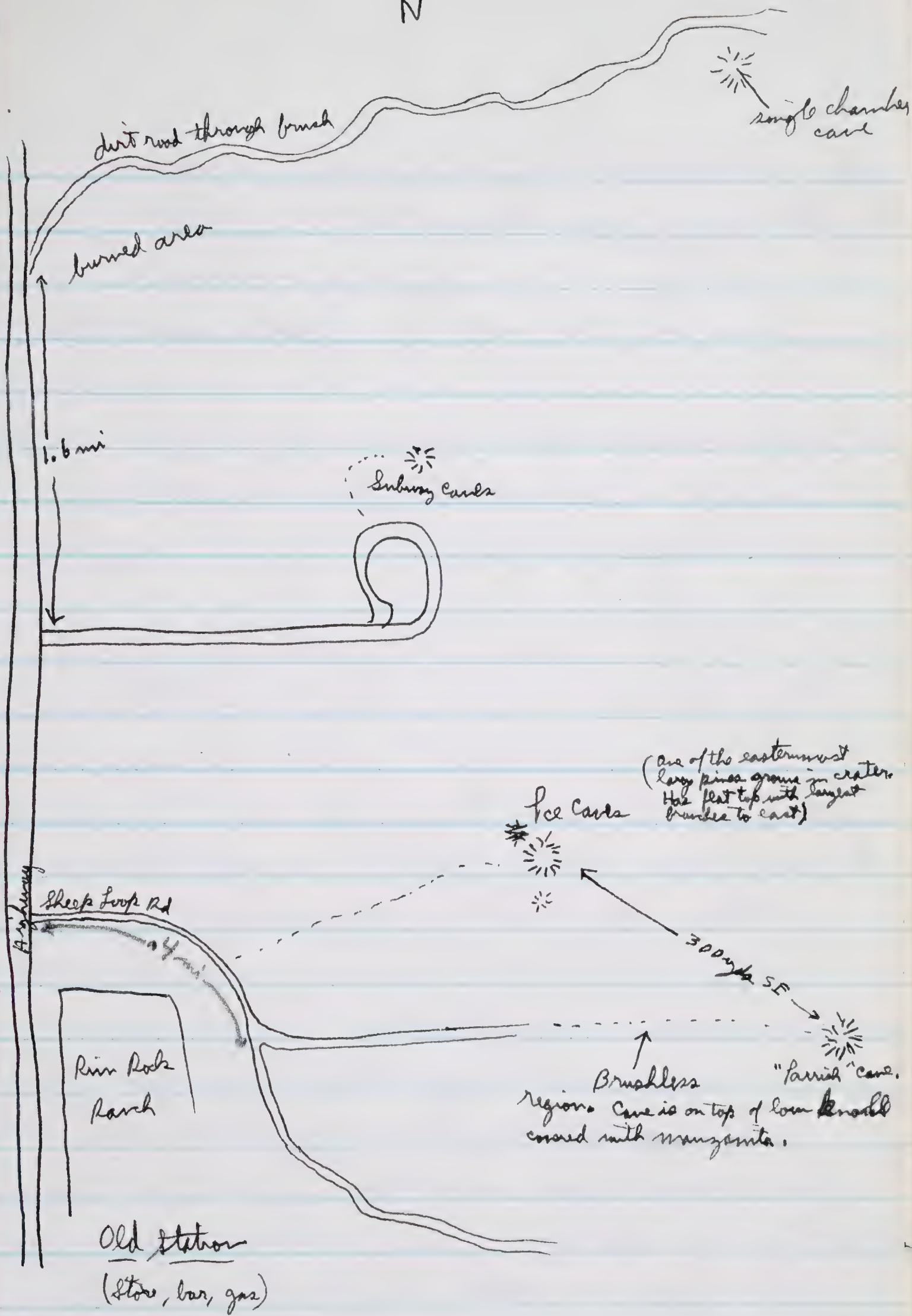
mon 7

↑
N

36

P. PEARSON

1948



P. PEARSON

1948

- 8:30 - 2 hanging together, not mounted, one awake, one torpid.
 8:45 - 3 together, 1 other about 2 inches away. No copulatory
 motions.
 9:10 - ~~same~~ 2 together, back to back, both look awake.
 9:20 - " " " " " "
 9:40 - Only 1 left, a ♀ with no signs of recent copulation.
 Saw no Myotis. Perhaps last night's were night
 roosting and tonight too cold for outdoor flight.

Mon. 8 Went back to Subway Cave about 10:30 a.m. (PST).
 Counted 10^{cong.} in south branch and 4 in north. Retrieved 4
 males captured Mon. 6 to south branch and took 2 males from
 north. Didn't look in long branch of north tunnel. Thus,
 when we left there were at least 12 Cong in the 2 caves, at
 least 4 of which were males. The highest count in
 these 2 caves was 22 ♀♀ and 13 ♂♂, of which I took
 10 ♀♀ and 2 ♂♂. Hence theoretically remaining are 12 ♀♀ 11 ♂♂.
 at noon went back to "Parrish" cave (300 yds SE of the
 cave). Counted 30 Cong back to where ceiling lowers to
 squat-level, probably missed seeing many because ceiling
 is rough. Removed 6 ♀♀ and 2 ♂♂ to take back to Berkeley.
 Matuses say the road from Redding via Mangrove Lake
 is often closed in winter, but that one can always get
 as far as Old Station from the north via Redding + Burney.

1948

Jackass Hill, 5 mi. W of Sonoma, Trumbull County, Calif.

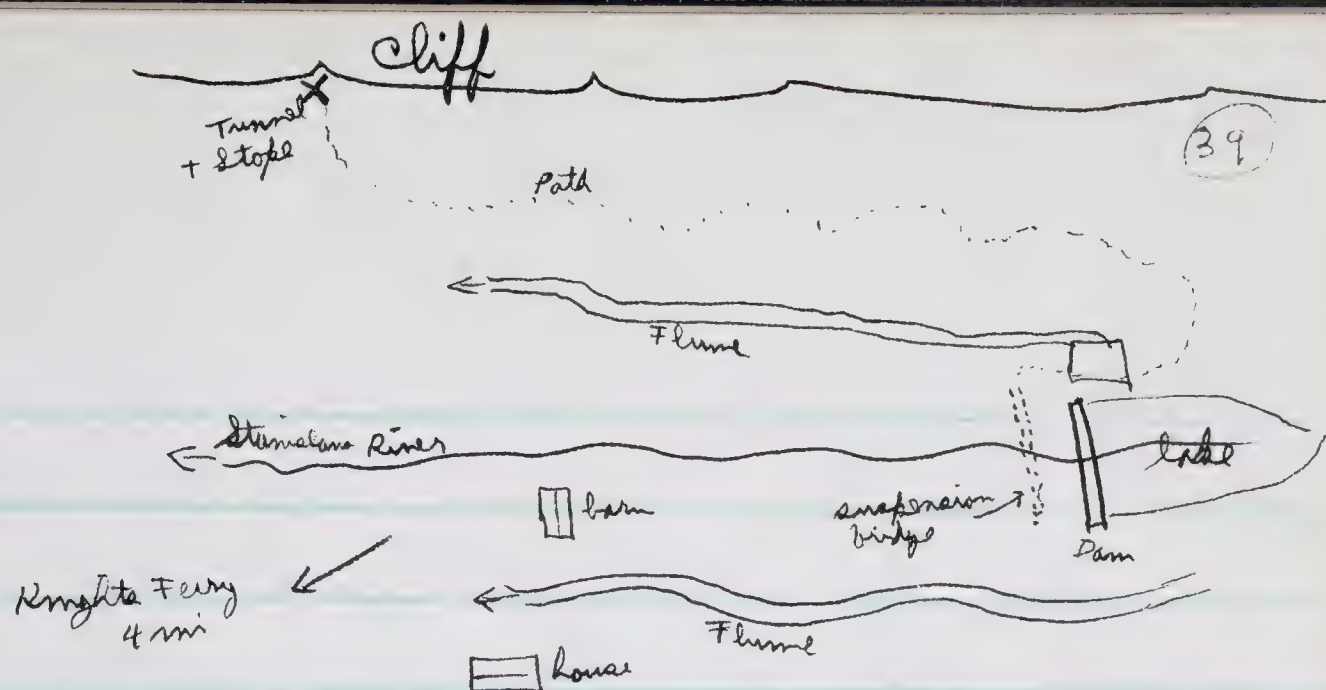
Nov. 12 Left Berkeley 2:20 p.m. with Anita, Mary Koford, and Harold Gray. Arrived Gray's cabin near ^{Tuttlestown} ~~Fitts~~ 6 p.m. Caught two Myotis californicus in the cabin ~~and~~ (♂ and ♀) and several others escaped. Also one ♂ Corynorhinus in the Gray mine tunnel (The Relief Mine). After supper visited 5 other good mine tunnels on Jackass Hill (Chileno Mine, Mark Twain Mine, etc.) Found one more lone Corynorhinus ♂ and a pair of Myotis californicus. These were mounted, one almost smothered by the other, and one was a ♂ and the other a ♀. The vaginal region of the ♀ was bruised and the skin of flanks red (from scratching by ♂?). The penis of the ♂ was considerably enlarged and reddish, looking somewhat bruised. None of the above specimens were torpid.

Nov. 13 Drove to Mercer Cane, looking in numerous abandoned buildings on the way. The "tourist" part of the cane is electrically lit and the owner was reluctant to have us look in other parts or in other shafts. He didn't think there were many bats - if any. It is a limestone region.

also went to Moaning Cane, but the entrances have been bat-proofed.

Stopped at the Denmore Mine near Moaning Cane. The caretaker there, Mr. Hill, told of a tunnel and stop at the Goodwin Dam near Knight's Ferry, where he used to dig bat guano and sell it. Drove there and found the place, a long tunnel with occasional heaps of guano and a large stop with much guano. Only one small Corynorhinus in the tunnel.

Pearson
1948



39

Looked in 5 of the Jackson Hill mines at 9 p.m. but no bats
Nov. 14 Drove down to the Trueman River Bridge ESE of Jacksonville.
Found only 1 Myotis yumanensis under the bridge and none in
the two tunnels (about 50 ft. deep) along the railroad tracks downstream
from the bridge. The next large bridge on the way home (near
large crusher? mill and decayed brick factory) had good wooden beams
and many droppings but no bats.

1 mi S. Lumbiness, Marin Co., Calif

Dec 14. Left 3:30 with Carl + Mary Loford. Looked in
Mr. Golden's barn shortly before dark and found
1 ♀ Eptesicus under the tin at the stair landing. Removed
it but left one other Eptesicus (or My. calif.?) in situ.
(this female escaped during the evening)
also 1 torpid Corynorhinus in attic down one of
the side "shoots" under roof on left (North) side. Did not
disturb it. Then went to "Lendi's" barn in center of
Lumbiness where we saw + caught 1 Corynorhinus at (1410)
at 8 p.m. no bats under the tin on landing. at 10 p.m.
2 bats were there. The cory hadn't moved. Temp.
outside 42°; in attic 44°. at 12, 3, + 6 am 2 bats
under tin and cory unmoved. Temp. outside at 6 a.m.
was 28° (unusually cold) with heavy frost. Temp. in
attic near Cory 35°. Left the Cory undisturbed but
~~collected~~ banded from under the tin 1 ♂ Eptesicus + 1 ♀ My. calif.

P. PEARSON

The latter two must have flowered indoors (and probably out) during this cold spell.

Tilden Park, Contra Costa Co., Calif

Jan 2 Put 49 Sherman traps on south-facing slope in grassy places baited with oatmeal at 9 a.m. Weather clear, cold (ice on road puddles). at 4 p.m. had one Microtus

Jan 3 night clear, cold (ice on Park Hills fountain). at 7:30 a.m. traps held 3 Microtus (dead), 6 Peromyscus ^{maniculatus} alive (released) and 4 dead, 2 Perithous alive (kept) and 4 dead = 20 total

Subway Caves, 4300 ft., Old Station, Shasta Co., Calif.

Jan. 14 Left Berkeley yesterday 7 p.m. with Carl + Mary Koford + Anita. Camped between Red Bluff + Redding. Temp. below freezing. Heard Coyote. arrived Old Station about 10 a.m. about a foot of snow on ground and light snow falling. Went into the small cave 1.6 miles N of Subway Caves (see Nov. 7) where I got 1 Corynorhinus Nov. 7, but no bats now. Outside temp. -1°C ; inside -5°C .

Went next (11 a.m.) to "Pierish" cave 300 yds. SE of Ice Caves at Old Station behind the Pine Rock Ranch. Came to a cluster of Corynorhinus about 50 feet in where temp. breast-high was -4° and -2° at ceiling where bats hung. From here in were many Cory hanging singly or in clusters of as many as 31. This ~~cluster~~ ^{cluster} of was hanging from the ceiling, ~~also unfurled~~ where air temp was -1°C ; temp. in center of cluster was 0°C . ^{fairly low} all these and others in this cave torpid. Many Cory, but single and clustered, had ears hanging down unfurled. Banded all except 1 ♂ (who was saved), 180 all told. Many more ♂♂ than ♀♀. No clear pattern (yet) of

1949

41

association or segregation of sexes. Hung up all banded ones ^{on} on walls or ceiling, but several were flying when we left the cave (about $1\frac{1}{2}$ hrs. after starting to band).

Went into the 2 Ice Caves but no bats. Temp. far in was -2°C : Ice, no water.

Lunch in bright sun on snow, but temp. below freezing. Then went to Subway Caves. In north branch found following: 8 single Cory, many with ears curled, in the left-most chamber. None in other parts of this north section, not even down the long tunnel beyond the cave-in. Temp back this long tunnel was $+9^{\circ}$. Marked ^{location} by chalk circles etc. the 8 torpid bats.

In the south branch Cory was hanging from the high ceiling of main cross-tunnel and in the left-hand chamber. In this chamber were clusters of 18, 6, 5, 2 prs., and 23 singles. Marked their location by chalk circles etc. ~~although~~ also those in high-ceilinged cross tunnel (4, 2, 1, 1). ^{also 2 Myotis subulatus on ceiling about 1 ft. apart. Recognized them}

about 4:30 went to see Brent Parrish and he showed me a new cave on the Sheep Loop Rd. Opening on top of a rise, probably about a ^{half} ~~quarter~~ mile SE of Ice Caves.

Supper by camp fire in snow. Clear, calm, cold, full moon. at 9 p.m. checked locations of bats in north branch and in cross-tunnel of south branch, but didn't go in the south chamber. Two new single Cory had arrived (or appeared) in ~~no~~ north chamber ^(one a ♂), and a pair in south. The top member of (dorsal) of this ~~upper~~ pair was awake, the bottom torpid. Tried to net them but the upper escaped. The lower was a ♀, no semen expressible.

1949

at about 10:15 p.m. no further noise had been made.
Slept in "middle" chamber of north branch.

Jan. 15
and 14
stayed still all
388 had moved.

In morning some changes had occurred in north branch (see Mary's notes) Banded remanders. In south-left chamber (undisturbed all night), 5 singles had left their original places, the large group of 15 had dwindled to 13, ~~and~~ one group of 6 had enlarged to 14, and a group of 5 had dwindled to 1. The total number of bats in the chamber in a.m. was same as yesterday afternoon but of the 56, at least 17 must have moved during this night. Both ♂♂ and ♀♀ had moved. In the high-ceilinged cross-tunnel a group of 2 ♂♂ and 2 ♀♀ had not moved, a pair (♂ + ♀) had not, and 1 ♂ single had arrived.

Temperatures in a.m. : outside, -2° F; left chamber of north cave (where bats hung) ^{Centigrade} 0° ; left chamber of south cave $+1^{\circ}$ C; high ceiling of cross-tunnel, -2° C.

Looked into the south cave that Parrish showed us yesterday afternoon. There were two tunnels, one about 50 ft. long, the other $100^{\pm}$, both open at both ends. no bats.

[Bimble School on topo map]

[Jon's ranch on topo map]

Stopped at the store at Macphosphate to ask about other caves. Was directed to the Bidwell Ranch^{CT} which is 3 or 4 miles back the road east of Macphosphate. The last unmarried Bidwell^{daughter} took us along the bottom of the river in search of a couple of ice caves that she had been in "a dozen and a half times" but failed to find them. Then drove to "Old Sam" Conrad's house on the old Fall River Mills Rd. east of Cassel. He showed us a hole at 6-mil hill out of which warm ~~the~~ air poured, but needed ladder to

1949

descend. This hole is about 200 yds to left of road, $4\frac{1}{2}$ miles east of Cassel.

Then drove to the Pt 1 Power Station on the Pt River $11\frac{1}{2}$ mi NE Burney to investigate some tunnels in chalk cliff. Picked up a boy, Danny Shipley, who directed us to them: along the road that goes past the tennis court near the village below the Power Station. The tunnels (3 of them) are ~~open~~ along the road a few hundred yards downstream from the tennis courts. Found 2 Cory ♂ torpid in the nearest of the 3, one of the Cory beaded with moisture. Danny says he has found bats in the floor of the tunnel under stones. Then home. arrived 1 a.m. Left Burney about 6.

Nipple sizes of ff from this trip:

tiny	18
small	8
medium	9
large	33

If this is a x-section of population

If nipple size is a good age-character and if sex ratio is 50-50, then the ~~33~~ 18 tiny (young) must have

come from > 33 large (adults), hence

medium-nipples must be adults. These $33 + 9 = 42$ adults

probably ~~co~~ didn't raise $18 + 8 = 26$ young, so it may be that small nipples are adults also. $\therefore$ 50 adults and 18 young.

Tilden Park, Contra Costa Co., Calif.

~~Jan.~~ 29 Put 49 Shermans baited with oatmeal at 2 p.m. in Tilden Park on slope across from Brazilian Room, left for Microtus, same place as Jan. 2. Not as many good runways as before. Great numbers of small depressions scooped out (by shunks?). Saw Jackrabbit.

Jan 30 at 8 a.m. traps held 1 Microtus, 5 Peromyscus maniculatus (2 of them dead). Compare with catch Jan. 3 with 20 mice including 6 Peritro. Night clear, cool. Saw 1 jackrabbit and a skunk, apparently feeding, in sunshine at 9 a.m.

Subway Cave, Santa Co., Calif.

Feb. 3, 1949

¹⁺
Feb. 2 Left Berkeley 11 p.m. with Benson, Mary Kofod, and Bob Lewis. Arrived Brainerd 5 a.m. and went to the cave east of Cassel on 6-mile Hill. Went down by rope ladder. Not very extensive. ^(about size of 5 bunch of subway, left smaller hole) Only 1 bat, 2 Corynorhinus. Temp. in cave 11°C . Temp. outside at 8 a.m. -9°C . Then went to the small cave 1. mi. N. of Subway Cave. No bats. Temp. near ceiling -4°C . or lower.

Then to Parrish Cave 300 yds SE of Ice Cave. Many Cory. but fewer than on last trip. banded and - unbanded. Flash photo of large cluster and of Mary + Benson. Temp. at first Cory.: 35°F . Re-read all birds and kept line unbanded ones. a definite tendency for single bats to have ears folded whereas those in clusters have them erect. One bat flew out and headed toward Subway.

1949

Then to Dubuoy Cave ca. 6⁰⁰ p.m. about 10 in north branch and about 30 [29-34 by different counts] in the left (lat) chamber of the south branch. Largest cluster about 8. Didn't work or disturb any. (except took down a few unbanded Cory and 1 Myotis subulatus). also took 2 Myotis and 1 ♀ Cory (unbanded) from north branch. More were in the other parts of the south branch. Slept in north branch.

Feb ~~2~~ ³

Road back in Dubuoy. Took more Cory from south branch and 1 more subulatus.

Temp. in the left (lat) chamber of north branch 38° F, in left (lat) chamber of south branch 39° F. No bats flying or awake during this morning visit but at least 2 were awake in the north branch when we went in at dusk yesterday.

Left about 10 for Modoc region. Road with about 4 miles new ~~at~~ snow. Temp 28° F. Stopped at 1 cholla tunnel between Burrey and Pitt River Power Station. No bats. After several stops to inquire about roads, arrived Modoc Lava Beds National Monument about 4:30 p.m. Well over a hundred deer along the road between Burrey and the Park. Deer bucks with antlers. Near Dubuoy saw Procyon, Lepus, Coyote, rabbit tracks. Near 6-mile Hill saw Deer tracks, dead Coyotes in several directions, and saw 1 snowshoe hare. Talked to store-keeper at Malcooatche, who mentioned a colony of bats living in the old flour mill at — also he found a large (15 "mingspout") grey bat [Lasiurus?].

1944

near Moakcoatche

Stopped at the headquarters in National Monument after looking in Mammoth Cave (no bats). Mr. Don Fisher, the Superintendent, welcomed us and reported that there were no bats in the caves. Looked through several before dark ~~in~~ ^{SB} Indian Well, Mushpot, Labyrinth, and Cory in Labyrinth but not in others ^{Kep + Cory}. Slept in headquarters building.

Morning very high wind, much snow blowing and probably some falling. Went into several more caves: Thunderbolt (which connects with Labyrinth), Catacombs, Sentinel, ^{MR and RL} Indian Leg, ^{Four Cory in} Indian Leg, two of which we banded and released in Mushpot, and a total of Cory taken from Sentinel and Thunderbolt. at least 3 others seen on a high ceiling but out of reach. Benson saw a Myotis subulatus hanging but awake in Thunderbolt. It took off and flew in front of us until we came to a back entrance to the cave, whereupon it ducked past us and was not seen again when we retraced our way through the cave.

Wind still high at noon when we left, temp. 28°. Stuck briefly in a few snowdrifts between Monument and Tulelake. Home via Doris and Redding at 11:30 p.m. Four of the Thunderbolt Cave bats died en route. Others OK.

Feb. 11 Berkeley - Have been keeping several cages of Corynor on the cellar stairs at 10 Minn Way, feeding them mealworms each evening (20 to 30 each). When I went to bring out



one cage at 9:30 this evening for feeding, a Cory was hanging (awake) on the outside of it. All the caged bats were present and accounted for. For the following reasons I am almost certain that this bat was a wild one attracted into the Pearson basement by the caged bats: ① It was a very grey specimen, much more so than any of our *Shasta* & *Liskiyan* ~~two~~ specimens ② It had several parasitic flies (we have removed the parasites from our captures as we feed them) ③ All captures are accounted for. ④ Ventilating gaps in the brickwork could have admitted it. If so it is the first Berkeley specimen of *Corynorhinus*. Only possibility of error is that it is a *Shasta* or *Liskiyan* specimen that escaped when we first arrived home a week ago. None were suspected of having escaped, however. Specimen 1468

Orinda, Contra Costa Co., Calif.

Feb 29 Mary Koford and I put ⁴⁹ ~~48~~ Benson live traps baited with oatmeal on water company land ~~area~~ in an abandoned orchard on the north side of Bear Creek Road about 2 mi. east of the Orinda - Richmond highway. The thick grass and thicket habitat looked good for *Microtus* but saw no good recent tunnels or droppings. Set about 3 p.m. also 50 Shermans in grassy field in NW quadrant of Orinda crossroads. Said to have been many *Microtus* in Orinda region last summer, but saw no clear recent tunnels. Very little green vegetation.



1949

Feb. 20 Night above freezing, light rain began in early a.m.
 Bear Creek Rd. traps held 1 Microtus and about 4 Pertho.
 Orinda traps 1 Microtus, 2 Sorex ornatus, and 12 Pertho.
 Many of mine near a cat-tail pond were sprung by skags.
 Four of the Perthos were dead in the traps, and 1 skunk. Other
 skunk ~~shot~~ and one ♀ Microtus died soon after. Total
 2 Microtus, 2 Sorex ornatus, 16 Pertho. 99 traps. 0 Peromyscus.

Feb 22 ^{with my} ~~at~~ ^{Kolof} ~~at~~ about 10 a.m. put 49 Benson and 50 Sherman
 line traps baited with oat meal in Sabiceornia marsh
 at junction of San Quentin road and route 101. also
 40 Sherman in a salt-bay marsh just east of
 route 101 at Corte Madera. Then drove to Muir
 Woods in rain to look for bats in hollow trees.
 Looked with flashlights in several dozen burned-out
 hollow redwood trees. Many of them dry, dark, and cozy,
 but few with large enough cavities to house large
 colonies of bats. Saw numerous moths and spiders
 but no bats.

checked the San Quentin traps at 2 p.m. and
 found 1 Microtus and 1 Sorex (dead). Many droppings,
 cut pieces of Sabiceornia, and runways in both places.

Feb 23 Checked traps at 10 a.m. Two Pertho megalotis
~~in the~~ and 1 dead Microtus in the salt bay marsh at
 Corte Madera (plus several sprung traps). 4 dead and
 11 live Microtus, 2 Sorex (1 alive), and 2 Pertho (1 alive)
megalotis. Several (± 10) sprung but empty Shermans

1949

49

with Microtus droppings inside. Probably escaped because doors were cut too short and allow paws or teeth to get between ceiling and top of door and pull back. all Microtus were large.

March 6 Left 3 p.m. with Reader for San Quentin etc. Set 48 Benson live-traps and about 90 Shermans, 50 of latter with ramped doors to prevent escapes. Oatmeal bait. Set about half in same San Quentin marsh as before, 10 in salt-hay marsh at Corte Madera, and set on grassy knoll west of st. 101 S of R.R. between San Quentin & Corte Madera.

Ran traps at 9 p.m. (7 Microtus) and slept on knoll near Corte Madera. at 6:30 had 10 more Microtus and something like 14 Perthos. and 1 Mus. Fatter on grassy knoll. ~~at~~ Two Microtus on grassy knoll and all others at San Quentin. Perthos both of these places, all Megalotus.

March 11 Left 7 a.m. with Mary Kuford and Wood Fox hunting Corynorhinus. all-day rain. Drove to places as follows looking for Cory: Barn near Calistoga, Old Winery at Arroyo, Las Pasadas (near Arroyo), Aetna Springs, 5 $\frac{1}{2}$ mi W and 1 mi N of Lower Lake, abandoned house between Lower Lake and Calistoga. Found 2 ♀ Corynorhinus burrowed in attic over kitchen of hotel at Aetna Springs. attic temp. 50°.

Also 1 ♀ Cory under old farm house west of Lower Lake. The latter only about 1 $\frac{1}{2}$ feet above ground. It was an Microtus one [non-parvus]. How did it know that this spot ~~was~~ was one of Mary's collecting localities? Temp. under house 44°. about 2-3 inches of snow near here. Stuck in mud here for about 1 hr. Home 7 p.m.

1949

March 12-13 Left 3 p.m. with Earl Hubbs. Set 98 live traps at San Quentin, 48 Bensons by Hubbs on north side of road and 50 Shermans on south. Plenty of sign. Batted with oatmeal. Home 7 p.m.

Night at Berkeley mostly full moon. Picked up traps at 8:30 a.m., 4 *Microtus* on north side [3 of them dead] and 7 *Microtus* on south [2 of them dead]. all adult-sized. also 2 *Perthra* (*megastria*). Yesterday p.m. turned over about 10 large boards along boardwalk across south marsh. Saw 1 *Microtus* + 1 *Sorex* there but couldn't catch either. This morning turned them over again and caught 1 *Sorex* before he could escape into the *Sahuarra*.

March 19 Left 7 a.m. with Guillermo Mann, Mary + Rolf (Koford, Pittelka, and Benson to continue Lake Co. circuit looking for *Corynorhinus*. Raining. abandoned house between Calistoga and Lower Lake; no bats; abandoned house between Lower Lake + Knutsen; no bats; Sulfer-bank mine abandoned house: 3 torpid *Corynorhinus* in basement, 1 *Myotis yumanensis* in bathing suit upstairs, temp. in basement 55°; Lucerne tunnels 1 *yumanensis* in drill-hole and several small 1 "Anides"; Abbot mine: a fairly torpid ♂ and ♀ hanging about 8" apart temp. 58° and a flying ♀ further back in tunnel where the temp. was 66°. Also a flying *Myotis calif.* in this tunnel, finally a female *Cory* under house 2 1/4 mi. SSE Weber Spring, Colusa Co. Mass of 4 ♀ *Cory* opened had swollen uteri as in all 3 of last week's, and neither of 2 sectioned so far had ovulated.

Home at 7 p.m. via Vacaville.

1949

March 22 Left 2:30 p.m. with Philip Aerd for *Microtus*,
 Set 49 Benson traps (Aerd) baited with oatmeal 4 p.m. at
 San Quentin Marsh and ~~49~~⁶⁰ Shermans. Also 26
 Shermans at the Corte Moderna grassy marsh.

at 8 p.m. looked in the old brick oven and found
 4 to 6 bats flying - looked like *Myotis yumanensis*.
 Temp. outside quite cool, probably about 50° (guessed)

Two or more of the bats still there at 9 p.m. ~~seven~~^{seven} *Microtus*
 in the San Quentin traps at 10 p.m., none at Corte Moderna.

March 23 Night cold, frost on ground and frozen rindrops on traps. Seven
 more *Microtus* at San Quentin and about 5 *Perthra megalotis* there plus 2
Perthra megalotis at Corte Moderna also forgot to mention one *Sorex*
 alive at 10 last night. Fed eagerly on *Perthra* carcass

Pitt River Power Station,
April 2, 1949

April 2 Left 6:30 p.m. yesterday with Aunt + Mary + 3 bats for Tassen. Left out between Red Bluff + Redding, but rained so left early 5 a.m. arrived Dubuoy Cave 8 a.m. No bats at all in north branch: considerably wetter than before. In south branch found a few at crossroads and a few in left chamber, but not nearly as many as on previous visits. All bats seen were banded. Re-weighed those weighed before: average loss about 0.5 g. Temp in left chamber 50° ; at ceiling of crossroads 48° also one *Myotis subulatus*.

In Parrish cave the bats were even the entrance than on last 2 trips: none back even as far as where the flash-light photo was taken. Considerable ice on ceiling ~~that~~ much of it a snowy sort of snow, some of which had fallen to floor. Perhaps this was the form in which it was removed commercially. Many fewer bats here than before. Almost all the equally large nipples. Saw about 4 ♀♀ and a couple of males. All except 1 of the females had large nipples. All ~~except~~ about 4 were banded. No bats in the two ^{ice} caves. Brent Parrish said it snowed last night, but chipmunks + lizards were out during day. (50°). Temp in Parrish cave where there were both bats and ice on ceiling was 46° .

1949

Looked in old houses etc. for the missing banded bats: Two especially good ones: one $1\frac{1}{2}$ mi. N. of Hat Creek P.O. the other just NE of Mahavettie had no bats. Then drove to the old Flour Mill at Glenburn, but no bats. Then hit River Station at 6 p.m. M. velans in one chalk tunnel, and 1 Cory and 1 M. yuma in the other. also 1 other Cory that escaped. Several good old houses nearby, but nothing night-roosting (or day) up through 10 p.m. Moths flying at 45°. Temp. 46° at 10 p.m.

April 3 No more bats in the 3 tunnels in chalk. Temp. at 6 a.m. 34°. Temp. in the Cory tunnel in chalk 57°: also no bats in the deserted houses etc. Then drove toward Burney on Rt. 299, left to Cassel, rt. to Lassen Rd., thence to Burney. Best bat roost was old creamery & house along river, ^{300 yds} south of Cassel. Many droppings in refrigerated room in the creamery and much evidence of night roosting in the house. 2 Very good athys in house but not ~~dropp~~ many droppings: many droppings in warehouse on east side of road at Maxwell.

April 12 Left for Inverness 3:45 p.m. with ants & bats. One male Corynorhinus on beam in cellar of Mariposa Pavilion in Lagunitas. Arrived Golden's barn about 6 p.m. Tadarida in garage, Myotis ? yuma under board on stair landing (about 6) and about a dozen Cory in attic rather wakeful. Caught 3 of them and 1 more later in ~~for~~ heater room. This one probably disturbed from attic. also caught and

1949

released 2 Myotis californicus. Nothing right roosting in Lagunitas at 8 p.m. on way home.

April 14

Left 5:30^{P.M.} with Anita + Peter for Clear Lake. 1 Bat flying in old house by road between Mt. St. Helena + Matton, arrived Sulphur-Bank Mine house 10 p.m. Many bats flying in + around house and barn; mostly Myotis yumanensis. In southwest room of house caught 4 Antrozous, ♂ + ♀ and 1 Padarida with illegible band. ^[probably 46-16819 banded same place March 29, 1947] Kept all 5. Also kept several yumanensis. At 3 A.M. one Corynorhinus hanging free from bottom of beam in cellar room; awake and escaped.

April 15

At 6:30 A.M. 2 ♀♀ Corynorhinus hanging together alongside beam in cellar room, and 1 ♀ hanging alone. Also 1 Cory. ♀ hanging under house. All banded. In barn, several Eptesicus in same crack as last fall - SW corner of center room of barn. Saved 2, not banded.

Nothing in north Lucerne tunnel at 8 A.M. In south tunnel, one yumanensis (?) back in crack (removed but escaped) and one tight cluster of 11 thysanodes ♀♀, 3 yumanensis ♂♂, and 1 yumanensis ♀. Three of the thysanodes were banded. Kept 1 unbanded thysanodes. Released all others.

1949

Looked in attic over kitchen at Actua Springs. About 60 Cory there, mostly in 2 clusters. Awoke quickly. One male, rather torpid, hanging by himself. Caught one cluster which was all ♀♀. Landed about 10, and released others $\frac{1}{4}$ mi. down the road. Many landed repeatedly on trunks of scattered oaks. No banded bats caught or seen.

Stopped at Angwin but no bats in either winery building.

Appendix: Lucerne Thysanodes band numbers:

♀ 46-16831, ♀ 46-16839, 46-16891

San Quentin, Marin Co., Calif.

April 17 Left 4:30 p.m. with Bob Lewis. Set 130 Sherman + Benson live-traps in Salicornia and Salicornia-grass. Baited with oat meal for Microtus, finished setting about 7 p.m. at 9:30 had 6 Microtus, despite fact that marsh was much drier than previously and with no really fresh droppings or cuttings. 5 of the 6 in the east end of the north marsh - which has consistently been the most profitable terrain.

at 8:45 $\pm$ caught one Myotis yumanensis hanging (but not very torpid) from ceiling in west gallery of the brick barn. Saw no others. Looked in center "fire-chamber", a long tube accessible by 2 man-holes on top of barn, but no bats. Seems a good place though. No more bats at 10:30 p.m., but saw 2 flying in west gallery at 2 a.m.

1949

56

at least one of these seemed to be larger, darker, and a straighter flyer than guianensis.

No more bats at 5:30 a.m. and only 2 Pteropus megolotis in traps south of road. No more Micotis. Forgot to mention 1 Mus by Lemia far out toward bay SE of road last night.

April 28 Left 7:15 a.m. with auto, infants, + Mary for Actra Springs. Arrived 10: and caught 48 ♀ Corynorhinus in attic over kitchen. Only a few escaped. Banded 32 and released them in attic, brought 16 home for testing rate of development of fetus in warm and cold rooms.

Up the road about 1 mile are the Actra Mines (mercury). We were shown into one tunnel where the ex-owner saw bats flying "like a swarm of bees" last June[±]. There were no bats present. Several other tunnels were boarded up or we were told they were "not open". In any event, these tunnels so near a breeding colony offer a good possibility for keeping track of a colony all year round.

No ~~more~~ bats in Anguin nursery.

May 5 Left 4:30 p.m. with Robt. Bailey for San Antonio. Set 44 Benson traps and 90 Sherman baited with oatmeal for Micotis. 94 of them in Sabornia north of Road at San Antonio and rest in grass at Corte Nodera. at 9 p.m. Robt caught 3 Micotis in S.A. line, didn't check others. One antrozous night roosting in brick kiln at 8:30.

1949

May 6

Hunted red-wing blackbirds etc. beginning at 5:30 a.m., then picked up traps about 8 a.m. 9 more Microtus, several of them young, and one Mus [all in Schizomys]. No Reithrodontomys. There have to implant redwing/pituitaries.

May 29

Left 6:45 a.m. with Mary Koford, Anita, et al. for Actua Springs. Left Anita + children at Putah Creek (via Vacaville). No bats in either kitchen at Actua Springs where we collected and banded April 28. Many vociferous and much noise in kitchen below may have scared them away. Manager said many showed up in the Social Hall a week ago, but he drove them out with aerosol bombs. Then looked in furthest of two tunnels at sharp turn of road at Actua Mines. This one had contained no bats April 28, but today had 1 torpid ♂ Cory. The other tunnel, which we had not been shown before, is about the same depth and had one cluster of Cory with young. Caught all except 2. ¹³ ~~some~~ of them were unbanded, 30 of them were from the 32 banded over the kitchen April 28. Most had nursing young, a few late preg., and one ~~not~~ rather preg. nor nursing. For composition of cluster, size + sex ratio of young, etc., see notes of M.K.



1949

May 30.

One of the 2 pregnant females caught yesterday was restless and moved around the cage considerably from 9 to ^{10:30 am} 10 am. [cage mates were 1 preg. and 1 nursing ♀]. at

11:26 she was hanging from

top of $\frac{1}{2}$ " wire cage by both

thumbs and both

feet. See top view →

~~both~~ The tail was curved

up and forward and the membrane

arranged in such a way as to form a basket. a young had been born and the ♀ mother was licking it rapidly,

as well as licking her own tail membrane. This lasted at least 3 minutes. The young made no sound although

it was moving around some and was hung by its hind feet from the cage wire. The head was buried all the

time in her left axillary region where presumably it had a nipple in its mouth. at 10:40 the mother

was still in this position, but not licking - looking around.

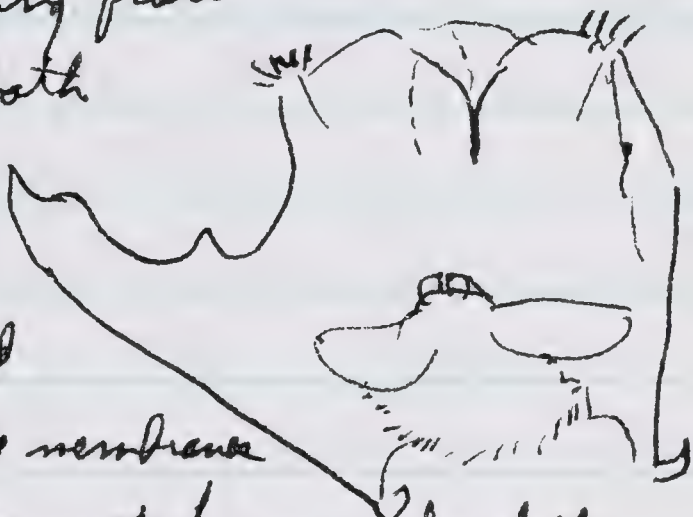
The young was quiet and not moving. The mother was next to the other two ♀♀ but not quite touching. They were asleep. at 11:57 she was in same position and again

licking the young, which again had 1 foot hooked on ceiling. No drops of fluid visible on paper towel on floor of cage. At 12:10

mother hanging by hind feet only, back touching other 2 ♀♀.

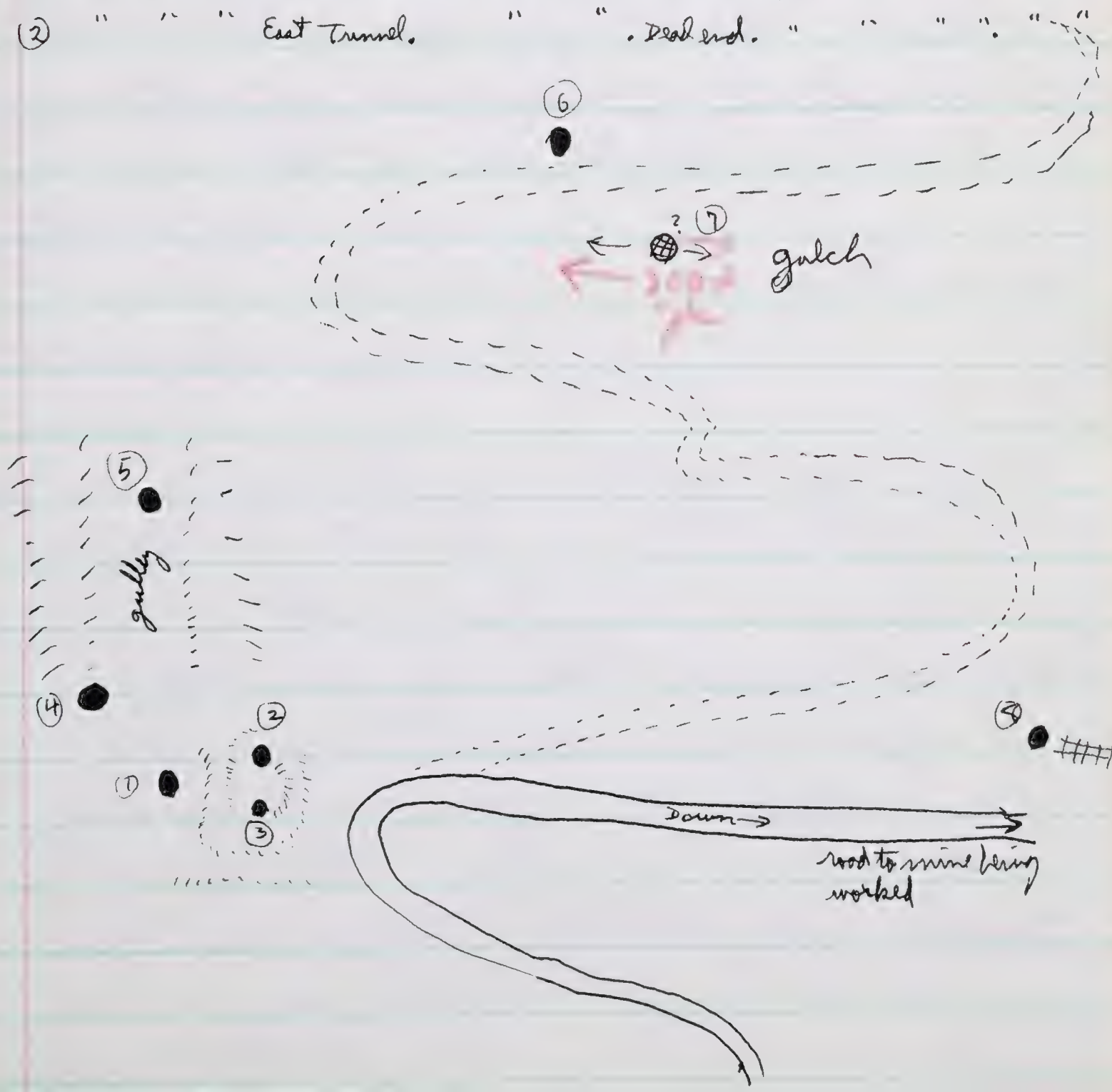
all quiet.

a 4.4-g. young makes a sharp, high-pitched, metallic chirp that reminds me of chimney swifts



(1) Called by me West Tunnel. Straight, dry, caved in after about 100 ft. Has gate can be seen from road.

(2) " " East Tunnel. " ". Dead end. " " " " " "





- ③ opens under maple tree in crater. Only about 15 ft. long and light bats in at south end. no bats
- ④ opens directly up hill from ①. Enter into large, high-ceilinged chamber. another glory-hole opening and short deep shaft. Fairly dark but no bats
- ⑤ Reached by walking up gully between ① & ②. about 100-150 feet long, straight, dry, partial cave-in at end. Has bats ^{called North Tunnel.}
- ⑥ Reached by following old road about $\frac{1}{2}$ mile. Entrance boarded up with "Danger" sign. Forked, one fork blind about 75 feet, other fork with deep pool & rocks at least 100 feet. Has bats.
- ⑦ Have not seen yet. Described by horse-back rider who had just past it and had seen 2 bats flying at its entrance. He called it a "cave" because no mine dump was visible. Presumably it is easily visible ~~from~~ from some bridle path or such along the bottom of the gulch.
- ⑧ Visible from road below the turn. Entrance boarded up. Haven't been in yet.

at 9:30 p.m. looked into North Tunnel hoping to find out whether or not ♀♀ left young behind when they went out to feed. Cluster of adults & young was hanging at same place. One young < 1 week old was separated from cluster by about 1 inch, but ^{we} didn't stay to examine closer for fear of scaring all away. Caught 1 ♂ Myotis gym. and 1 more ♂ Myotis evotis in East and West Tunnels at 10 p.m. Looked again in North Tunnel at 11 p.m. Cluster of adults and young still there. The young one seen before no longer separate.

1949

61

June 5

Collected all those in the cluster in north Tunnel. Saw none escape although one was seen flying afterward but not captured. Banded band numbers etc. For details see notes of M.K. about 2 were still preg. and 1 (saw) was non-preg non-lactating. Twelve were carrying the same babies as they were last week and 2 were not. Loose babies we put on floor of ~~cage~~^{cave} about 10 feet further in than where we were banding at entrance. all except one crawled immediately to sides ^{up} the sides $\frac{1}{2}$ to 3 feet. One into a crevice. They squeaked occasionally, which attracted the attention of females that were flying about from time to time. all ♀♀ seen flying were not carrying young. Baby bats not squeaking audibly were not approached by females. There seemed to be a tendency for the babies to squeak more when the ♀♀ were nearby. Perhaps the babies hear supersonics but attract the ♀♀ with audible squeaks. On 6 occasions females came up and selected a baby, crawled over it, "brooded" it for perhaps 10 seconds, then flew off with the baby attached. In each case the female rejected one or more of the babies after a momentary contact with it, then encountered one that gave every indication of "satisfying" them, and flew off with it. after several attempts, Mary finally netted one ~~it~~ after it had picked up its young. The baby was one that was unattached when we sorted out the catch. The female was one not in the catch I quite possibly

1949

62

the ^{seen} one flying after setting the cluster]. The baby had been put on the wall in contact with 9 others. The female came up + landed, "looked over" several, then covered one of them with her body and wings, & making motions as if tucking the baby in. Mary said it was obvious that she was trying to ~~find~~ have it attach itself. Mary caught the ♀ and attached young just as they took off. Out of 10 young of similar age, ~~the~~ ^{this bat} had chosen the same one that ~~had been attached to her last week~~ she had been carrying when we saw her last week.

The mothers were able to fly with today's heaviest young attached (6. ?) g.

June 9 Left 6:15 p.m. for Lassen with Anita et al. Slept at burrowing-owl place south of Corning - but no owls. Saw several barn? owls

June 10 over rice country. Drove over Mt. Lassen via Red Bluff and Mineral. The road opened May 30 this year, which is unusually early. Stopped along the road 5.9 miles south of Old Station at a very large pile of lava blocks a hundred yards or so west of the road. This is yellow pine country and about 5100 ft., but heard at least 2 comies. Went into Lohrway Caves about 5 p.m., but no bats. At 9 p.m. one or more large bats were flying inside the crater and in and out of the tunnels. Went into the tunnels and saw flying 1 com? and 2 myotis? but nothing hanging. Temp in North Branch (south chamber) 7.6°; in blind chamber of South Branch 6.8°.

June 11 Slept at Caves Campground along Hat Creek. Several small bats flew early dusk last night. This morning a dipper was feeding its young along the stream only 15 feet from our sleeping bags. A single parent was attending a single young, which appeared as large as the parent. The young could fly, swim, and feed in shallow water. It kept up a high squeaking accompanied by bobbing motion. The parent did most of her feeding along the edges of the creek, but occasionally dove out in the middle. A little later it developed that ~~the parent~~ (or another) was feeding two young.

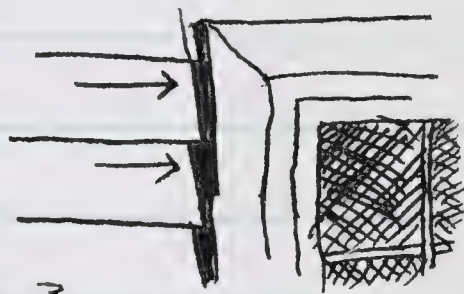
Looked into the 2 Ice Caves and Parriah Cave and the single chamber cave 1.6 mi. N. of Subway. No bats in any of them but considerable ice in both Ice Caves and some in Parriah Cave.

Drove to Cassel after lunch, looking in barns on the way etc. Only bat seen (and collected) was in the attic of the big house at Cassel (a ♂ Corynorhinus). It was awake enough to fly. Camped at the Cassel Creamery. Several night hawks hunting over the lake at dusk and many bats - sometimes 2 dozen visible at once. Started night hunting about 9 p.m. and did 4 collections in the creamery and in the big house. Many Myotis yuman on each trip, especially in the upstairs hallway ~~and~~ of the big house and the refrigerator room of the creamery. as many as 25 in the latter at one time. Stored all in butter tins and socks overnight.

1949

64

June 12 Banded and released about 75 of the Myotis yumanus. Put up 5 and discarded 2 injured ones. While banding one found 3 day-roosting in the big house. When released most of the 75 flew aimlessly, after landing on the side of the big house. Several crawled ~~with confidence~~ without hesitation under the trim of the clapboard big house →



After lunch drove to the Hot Creek Power Plant No. 2 which is 3 miles north of Cassel. People ~~at~~ at the Cassel store had said there were bats in the garage there. The garage is a high-roofed, girdered structure with corrugated iron roof. Bats were roosting between some boards and the corrugated iron. Caught one of them (a Myotis yumanus) and several others sticking their heads out but decided not to try to get them.

Then drove to the 3 chalk tunnels at the Pit River Power Plant, $11\frac{1}{2}$ mi NE of Burney. Nothing in the tunnels at 5:30 p.m. but at 9 p.m. caught 2 Myotis ^{subulatus} ~~subulatus~~ and 1 Eptesicus. One other Myotis? escaped us. Didn't see any bats flying at dusk.

June 13 Skinned bats + painted. Drove to Old Station at supper and talked with Brent Parrish, but he had no good ideas as to where the Cory are. Camped at the Cory - Bee place 5.9 miles S. of Old Station. Coryes continued calling until

1949

65

9 p.m., which is long after dark. a few bats flew at dusk.

June 14 Drove east on the Susanville road to look at old buildings on the topo sheet, particularly Grass Lake, Smokey Cabin, and Cove + Ward Ranch. Much bad road, no bats, and in fact, practically no remains of cabin at 1st 2 places. Lunch at Cove + Ward Ranch, then started home. Home midnight.

June 29 Left 2:30 p.m. with Anita, Mary, et al. for Actua Springs. Arrived 5. Looked in all known tunnels at Actua Mines but found only 1 ♂ Cory [in Tunnel 6 quarters of June 4]. also found the tunnel 7 & mentioned by the horseback rider. It is in the gulch on the north side about 300 yds downstream from No. 6, has considerable water in it. also another tunnel at the head of the canyon just below the owner's house. ~~which was a good one~~

Then looked over kitchen at Actua Springs and there was the entire colony, despite noisy dish-washing for 80 guests down below. We left them undisturbed, had supper, and returned before 8. Many Cory left before dark, but observations were confused by many other bats emerging from behind the chimney (crack between chimney + house). Emergences slowed considerably about 8:15, and Anita + Mary went into attic about 8:30. Some adult Cory and many young Cory present, some of the latter flying. Considerable traffic in and out of

"mindow," but some confusion because antrozous was coming in to night roost. I joined them before 9. at 9:40 Mary's impression was that only young Cory and night-roosting antro remained. at 12 when we left, there seemed to be fewer young Cory, and we went to bed thinking that the mothers had returned one by one and carried them off. [at 10 4 bats came in mindow, followed by chittering of babies]

June 30

Returned to attic 8 a.m. The entire Cory colony was present in 2 clusters. Captured all except 10. Most or all of these escapees were banded ones. Of those caught, all except 1 small one and 1 adult ♂ [sic] were banded. The unbanded baby may have been ~~the~~ from the single preg. ♀ lost last night. Kept the ♂ and 2 mothers and young. Most of the young were within 10% of adult size and all except 1 flew when released. This non-flyer was not the smallest [123030].
No antrozous seen.

Home 12:30.

July 2

Left 6:30 p.m. with Anita + Peter for Pine Crest to pick up captive weasel. Slept east of Knights Ferry.

July 3

Arrived Deer Survey Camp at Bell Meadows before lunch. Survey crew was off on hike, but Bernice Rhiney told how Thane saw 5 weasels cross road at night and managed to catch one half grown one in his hands. Set 11 traps baited with minck food at the place [many fallen logs among fir + sugar pine about 4 mi. by road S of Pine Crest. Then lunch with Bernice, afternoon with Leopolds

at this camp. after supper with Bernie and her camp-mate [Joan? from near Hastings reservation] we all went jacklighting ~~at~~ at the meadow place. Saw nothing.

July 4 Traps held 2 Peromyscus and 1 Microtus [in woods?]
along stream. Home about 10 a.m. after looking for bats [none]
in mine tunnel in ~~Woods~~ of road about $\frac{1}{2}$ mi W of Sonora.

July 12 Left after lunch with Anita, Mary, et al for meadows at Gustine + Newman. Much driving around these towns. Set traps at dusk, 1 at Schoolhouse between Newman + Gustine and 3 near our sleeping place on a road running east about a mile or 2 south of Gustine. This road runs through flat unempt-looking country and marshes. Many jack rabbits, some mosquitoes at dusk. Drove about 40 miles after dark on roads around Gustine and saw 22 jack + bunny rabbits, 1 young opossum (about ground-squirrel size) and 1 Microtus. The traps set were new wooden meadow traps.

July 13 No traps sprung. Up ~~at~~ and down and drove more looking for meadows around Gustine-Newman. No traps sprung. Talked with numerous people. Heard and smelled bats in Newman in an old brick building ~~at~~ at corner where road to river branches off main road. Bldg was being used for storage by Simon Newman. Swam in Merced river in p.m. Set 4 wooden meadow + 5 Harshart traps along the same marsh road as last night. Slept in wheat field east of ~~Newman~~ Gustine.

1949

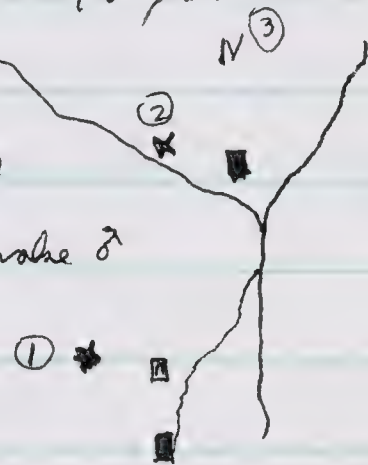
68

July 14

No traps sprung. Home 10 a.m.

July 22

Left 8:15 a.m. with Mary, Pitelka, and Sr. Esteban for Mupa Co. *Corynorhinus*. First to Knowville where we looked in 3 tunnels. One a steep ~~tunnel~~^{shaft} with "derrick" over it, entered by ladder. I went down about 75 feet and never did see bottom. no bats. This one (3) was up on hill. No 1 (no bats) was on hillside behind abandoned house, and No 2 (one awake δ cory) was just along road to Lower Lake. ① *



Deaf caretaker here mentioned more tunnels 4 miles up right fork of road (which later returns to Lower Lake road at Reiff) so we drove there, a location known as Reid Mine. The manager said no bats in the tunnels ~~to~~ near the headquarters but referred us to 3 further up the road. Two were a few hundred yards back an old road (blocked) to the right of the road about $\frac{3}{4}$ mi. N of the ketra. (One of these was a good tunnel but no bats. The other was more than half full of very rusty water. we didn't go into it). The other tunnel had a narrow opening at the left edge of the road about $1\frac{1}{4}$ mi. above the headquarters. In this tunnel, which had several short branches, we caught 2 active $\delta\delta$ Cory and 2 torpid ♀♀ . Thus all 3 $\delta\delta$ today were awake, both ♀♀ torpid.

Home 7:15 p.m. via argunin + Pope Valley.

Pearson
1949

69

Aug 2

Left 6:30 a.m. with Mary, Rolf, Krutzsch, & Anita for Aetna Springs. Looked in all 7 tunnels but no bats in any. 51 banded Cory in attic of hotel, brought 1 home but didn't read bands of others. In winery at Argentin many Antrozous in old building, Mr. thysanodes under tin of roof of cupola of old building and clustered on rafters in 1st floor of stone building. also 1 ♂ Cory in 2nd floor of stone building. Krutzsch kept about 4 thysanodes, 2 antrozous, and the ♂ Cory. Home 2 p.m.

Pearson, O. P.

Humboldt County

August 1949

Catalogue nos. 1620-1791

Journal

Species Accounts

BIRDS

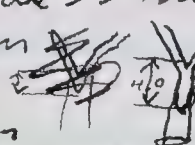
Mammals

Catalogue

1949

1620 ♀ Herpestes
mongus

540 x 234 x 55 x 19

arrived Aug 6 from Baldwin. H. # 744. Late pregnant, 2 in rt. horn, 1 in left. Most unusual feature of U.G. system is extreme length of oviduct which are 35 mm. long and not convoluted. Corpus uteri quite long, 40 mm. Internum 3 x 2.5 mm. . Rt. ovary dominated by a large corpus with two slightly smaller corpus 2 x 3 mm. small-med. follicles. Left ovary hence there must have been cross-over of blood supply. Grey anal glands 7 mm. Flaky glands lateral to vaginal opening 7 mm. Uterus not swollen. Cervix at level of bladder. Embryos rather jellyfish but probably healthy; head + body 52, 47, 49.

Big Lagoon, Humboldt Co., Calif. Aug. 9, 1949

1621 ♂ Sorex trombidus humboldtensis
caught by cage on edge of spruce stand. overnight.

125 x 61 x 14 x 8 5.7 g.

1622 ♀ Sorex vagrans vagrans
overnight in grass -

106 x 41 x 12 x 8 5.5 g.

marsh. early pregnant, 3 rt. 2 left.

1623 ♂ Zapus trinotatus eureka
overnight in grass -

227 x 142 x 32 x 13 18.7 g.

marsh. Testes 6 mm. no fat.

1624 ♂ Sorex vagrans vagrans
overnight in grass -

105 x 45 x 12 x 7 5.3 g.

marsh. Testes 1 mm.

1625 ♂ Scapanus orarius orarius

[42] x [0] x [] x [] 60 g.

Picked up on trail in marsh-meadow. Tail + hind feet missing. Testes 3 mm. many contusions and skull broken

1626 ♀ Sorex vagrans vagrans
overnight in grass -

109 x 44 x 12 x 8 4.2 g.

marsh. Had not pins on chest, side, and rump.

1627 ♂ Zapus trinotatus eureka
overnight in grass -

225 x 137 x 32 x 14 19.0 g.

marsh. Testes 7 mm. no fat.

1628 ♀ Thomomys

219 x 52 x 29

caught near by K. Murray. Placental scars but no embryos

1629 ♀ Zapus trinotatusHeld to Sturton.
in Bonine
no skins.

3 placental scars rt. horn, 1 left. not lactating. no fat.

1630 ♀

With placental scars but uterine crystalline + fluidy unlike 1629. Lined U.G. Vaginal plug at cervical end of uterine

1949

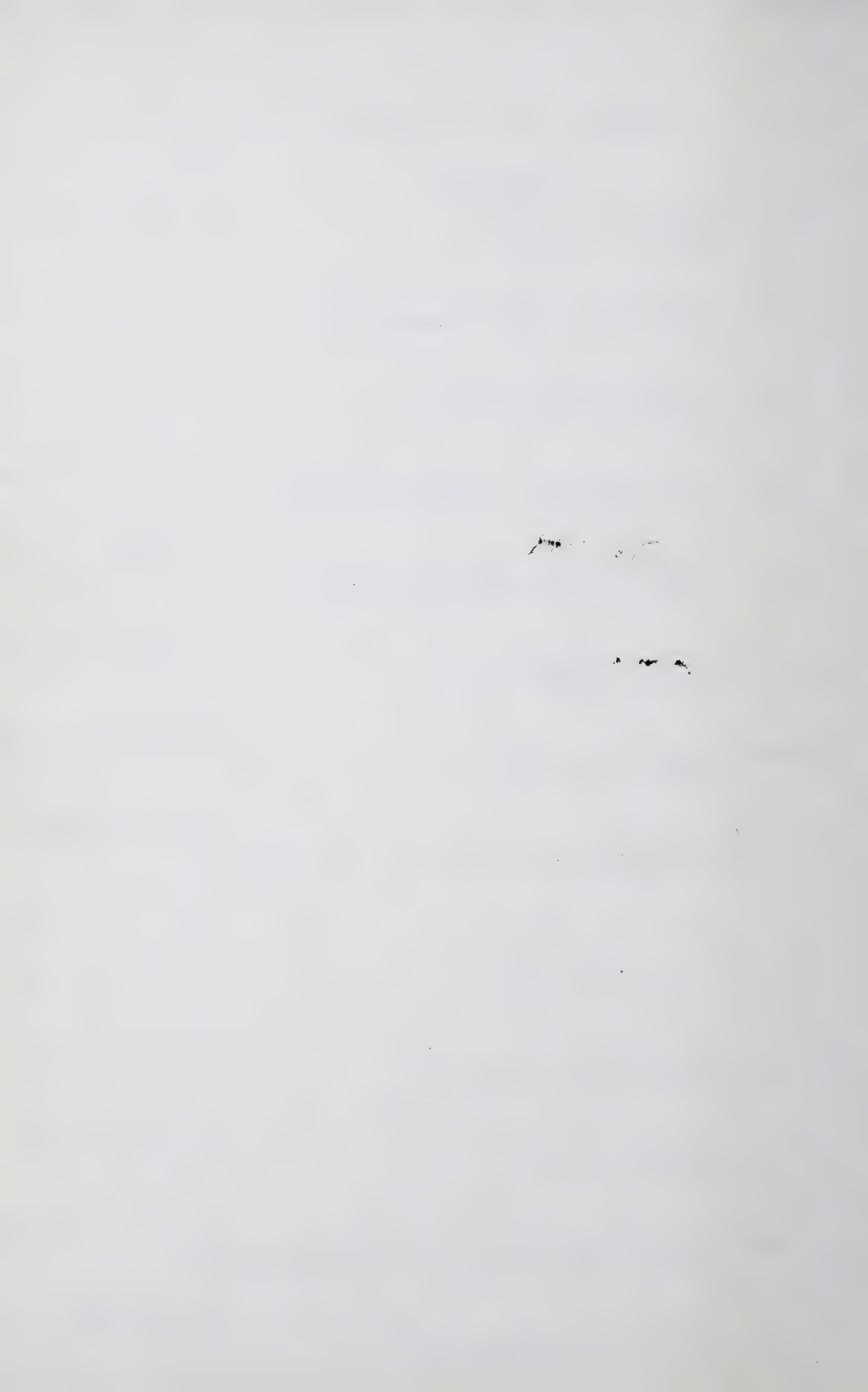
2

Big Lagoon, Humboldt Co., Calif.Aug. 10

- 1631 ♂ *Sorex vagrans vagrans*
Testis 5 mm. In scirpus marsh 103 x 39 x 12 x 7 5.8g.
- 1632 ♀ *Sorex vagrans vagrans*
5 emb. 2-1-2, very small. In spruce-fern grove. 103 x 45 x 12 x 8 4.5g.
- 1633 ♀ *Sorex pacificus pacificus*
♀ no embryos. In spruce-fern grove 137 x 64 x 16 x 10 10.0g.
- 1634 ♂ *Reithrodontomys megalotis longicaudus*
testis 6 mm. In grass-march. 139 x 77 x 17 x 12 9.5g.
- 1635 *Zapus trinotatus eureka*
In spruce-fern grove. Uterus very thin, vagina thick. No fat. 226 x 145 x 32 x 15 ^{18.2g}
- 1636 ♂ *Zapus trinotatus eureka*
Testis 6 mm. No fat. 234 x 147 x 34 x 15 22.4g
- 1637 ♂ *Sorex pacificus pacificus*
In scirpus marsh. Testis 6 mm 133 x 62 x 17 x 9 10.6g.
- 1638 ♀ *Eutamias*
collected in p.m. by Cogswell in burned area. no embryos 267 x 117 x 40 x 22 ^{91.7g}

Aug. 11

- 1639 ♂ *Sorex vagrans vagrans*
In scirpus marsh. Testis 2 mm. 105 x 43 x 12 x 7 4.0g.
- 1640 ♀ *Myotis evotis*
no emb. stomach full 77 x 33 x 9 x 12 4.9g.
- 1641 ♂ *Myotis evotis*
testis 5 mm. 88 x 38 x 9 x 13 6.5g.
- 1642 ♀ *Microtus longicaudus angusticeps*
In scirpus marsh. Early preg., 2 left 3rd, also placental scars 158 x 55 x 20 x 14 38.2g
- 1643 ♂ *Microtus longicaudus angusticeps*
In scirpus marsh testis 13 mm. 168 x 55 x 20 x 14 40.0g.



1949

Big Lagoon, Humboldt Co., Calif.

- 1644 ♀ Microtus longicaudus angusticeps 171 x 53 x 22 x 14 40.2g.
In lupine. Uterus very thick, with placental scars.
- 1645 ♂ Zapus trinotatus eureka 236 x 145 x 32 x 16 22.1g.
In spruce-fern grove. Testis 8 mm. no fat
- 1646 ♂ Zapus trinotatus eureka 243 x 155 x 33 x 15 21.8g.
In spruce-fern grove. Testis 7 mm. no fat.
- 1647 ♀ Peromyscus maniculatus rubidus 207 x 116 x 22 x 19 28.8g.
In spruce-fern grove. Pregnant, 2 seedlings in rt. 5 mm diam. and 5 in left.
- 1648 Myotis lucifugus alascensis 79 x 34 x 9 x 13. skull only
~~skull only~~ Killed. Skull only. Shot by Sullivan
- 1649 ♂ Zapus trinotatus eureka 135 x 75 x 25 x 8 4.3g.
Picked up by A.H. Miller. Probably just abandoned by garter snake. Uninjured. Testis 4 mm.
Eyes not open
- Aug. 12
- 1650 ♀ Myotis lucifugus alascensis 90 x 39 x 9 x 14 7.1g.
Shot by pm. over dog pond. no emb.
- 1651 ♂ Microtus oregoni oregoni 124 x 34 x 17 x 10 15.2g.
In middle of spruce-fern grove. Testis 4 mm.
- 1652 ♂ Microtus oregoni oregoni 118 x 31 x 18 x 11 18.8g.
In middle of spruce-fern grove. Testis 2 mm.
- 1653 ♀ Neotoma fuscipes monochroma 440 x 217 x 42 x 37 283g.
lactating, no embryos but many placental scars. In maple-alders-rubus-nettle
second growth.
- 1654 ♀ Neotoma fuscipes monochroma 393 x 199 x 42 x 32 173.5g.
Uterus thin, no scars. Stomach with green pulp. Same nest as above.
- 1655 ♀ Microtus longicaudus angusticeps 173 x 56 x 20 x 14 34.0g.
Scirpus marsh. Lactating. 3 placental scars left uterus, 2 rt.
- 1656 ♀ Zapus trinotatus eureka 233 x 142 x 31 x 15 21.3g.
Scirpus marsh. Lactating. Placental scars 2+2. no fat.
- 1657 Zapus trinotatus eureka 218 x 139 x 31 x 14 14.0g.
Spruce-fern grove. Uterus thin, no placental scars. no fat



1949

Big Lagoon, Humboldt Co., Calif.

1658 ♂ Zapus trinotatus eureka 245 × 147 × 32 × 14 25.5g.
 caught by Cogswell in testis 7mm. Hide not prime over back. No fat.

1659 ♂ Zapus trinotatus eureka 221 × 141 × 33 × 14 13.7g.
 caught by Cogswell. Hide prime. No fat. Testis 6mm

1660 ♂ Sylvilagus bachmani uhericlos 310 × 8 × 74 × 55 573g.
 Killed by snipe. See Miller notes. Hemorrhage near rt. & left ears + sternum.
 Testis 11mm.

Aug. 13, 1949

1661 ♀ Microtus oregoni oregoni 142 × 37 × 17 × 11 20.6
 In dry grass - thistle meadow 6 yds. from edge of brushy woods. Embryos 2+2.

1662 ♂ Zapus pacificus pacificus 147 × 65 × 17 × 10 15.0g
 In big redwoods along stream - testis 6mm. Scent glands conspicuous

1663 ♂ Zapus pacificus pacificus 148 × 63 × 17 × 10 16.1g.
 caught by Cogswell in redwoods. Testis 7mm. Hide not prime in patches on belly. Scent glands conspicuous

1664 ♂ Neotoma fuscipes monochroua 315 × 153 × 40 × 27 97.0
 Testis 5mm. Same nest as 1653, 1654

1665 ♀ Eutamias townsendii ochrogenys 267 × 109 × 39 × 22 97.0
~~no embryos~~

Aug. 14

1666 ♂ Myotis lucifugus alascensis 81 × 35 × 9 × 15 4.8g
 Shot by hand 7:35 p.m. Stomach partly filled. Testes 2mm.

1667 ♂ Eutamias townsendii ochrogenys 260 × 113 × 39 × 23 84g.
 testis 5mm

1668 Asaphina

In stream in big redwoods, 250 ft.

1669 Triton olivaceus

In stream in big redwoods, 250 ft.

1670

" " " "

1671

" " " "

1672 ♀ Neotoma fuscipes monochroua

" " " "

no and/or no placental scars.

382 × 187 × 41 × 31 174g.

1949

Big Lagoon, Humboldt Co., Calif.

- 1673 *Neotoma fuscipes monochroua* Testis 7 mm. 325 x 153 x 40 x 31 133g.
- 1674 ♂ *Zapus trinotatus eureka* 223 x 138 x 31 x 15 20.0g.
In deep redwood - fern slope 250 ft. at least 100 ft. from stream and no grass
or sedge anywhere nearby. testis 7 mm.
- 1675 ♀ *Spilogale gracilis* 410 x 137 x 46 x 27 400g.
In Schugler's woodrat nest. Placental scars 3 left 2 rts.
- 1676 ♂ *Microtus longicaudus angusticeps* 182 x 69 x 23 x 15 41.5g.
In dry grass-thistle meadow a few yards from 1661, testis 13 mm.

Aug. 15

- 1677 ♀ *Sylvilagus bachmani uericolor* 334 x 111 x 75 x 54 581g.
Shot 7 a.m. Uterus thin, no scars.
- 1678 ♀ *Neotoma fuscipes monochroua* 427 x 198 x 42 x 32 278g.
Behind camp. Skull broken. Same house as 1673. Lactating?, placental scars 1 + 1.

Aug. 16

- 1679 ♀ *Myotis lucifugus alascensis* 88 x 36 x 9 x 14 4.3g.
~~no~~ mites Aug. 14 no emb.
- 1680 ♂ *Microtus longicaudus angusticeps* 167 x 62 x 22 x 14 38.9g.
In grass-thistle meadow same as 1676 and 1661. testis 13 mm. Eye 3 mm. diam.

Mad River Bridge, 4 mi. N. Arcata, Humboldt Co., Calif. Aug. 16

- 1681 ♀ *Eptesicus fuscus bernardinus* 135 x 52 x 12 x 18 23.5g.
no embryos. Some fat.
- 1682 ♀ " " 128 x 46 x 12 x 18 25.0g.
U.G. vascular, no emb. much fat
- 1683 ♂ " " 124 x 46 x 11 x 18 16.8g.
testis 5 mm. no fat
- 1684 ♀ " " 122 x 46 x 11 x 18 18.5g.
no embryos. nipples large. no fat
- 1685 ♀ " " 134 x 50 x 12 x 19 19.5g.
no emb. Uteri longer than in 1686. no fat

1949

6

1686 ♀ Eptesicus fuscus bernardinus 128 x 48 x 12 x 18 20.0g.
 Ovaries vascular, no embryos. No fat.

Mod River Bridge, 4 mi. N. Arcata, Humboldt Co., Calif.

Aug. 17

1687 ♀ Eptesicus fuscus bernardinus 128 x 51 x 12 x 18 17.8g.
 caught Aug. 16. no emb. not much fat

1688 ♀ " " " 125 x 48 x 11 x 17 18.3g.
 caught Aug. 16. Considerable fat. No emb.

1689 ♀ " " " 113 x 43 x 11 x 16 13.3g.
 caught Aug. 16. no fat. No emb.

1690 ♀ " " " 121 x 44 x 12 x 16 15.2g.
 caught Aug. 16. no fat. Ovaries very large but no follicles seen. No emb.

1691 Mustela erminea ^{Therion} ^{Tail only.} Picked up on road near Kane Ranch, 450 ft.

Aug. 18, 1949

1692 ♀ Spilogale gracilis 408 x 132 x 47 x 28 40.3g.
 In Schuyler by woodrat nest in small clump of young redwoods. 400 ft.

1693 ♀ Eutamias townsendii ochrogenys 248 x 106 x 36 x 24 88.0g.
 Big Tagon, shot by Cogswell. No emb.

1694 ♀ Eutamias townsendii ochrogenys 257 x 109 x 37 x 24 89.0g.
 Big Tagon, shot by A.H. Miller. No emb.

Aug. 19

1695 ♂ Sorex bendirii 149 x 71 x 19 x 10 14.2g.
 testis 2mm.

Mod River Bridge, 4 mi. N. Arcata, Humboldt Co., Calif.

Aug 20

1696 ♀ Eptesicus fuscus bernardinus 126 x 49 x 12 x 19 15.0g.
 caught Aug. 19. Ovaries very large. no large follicles. no emb.

1697 Eptesicus fuscus bernardinus 122 x 49 x 12 x 18 14.5g.
 caught Aug. 19 Ovaries large no emb.

1949

7

French Camp, 3100 ft., Humboldt Co., Calif.Aug. 20

1698	♂	<u>Peromyscus maniculatus rubidus</u>	testis 10mm. 187 × 95 × 22 × 20 22.5g
1699	♂	"	testis 11mm. 189 × 99 × 23 × 18 26.0g.
1700	♀	"	uterus scars, no emb. 179 × 85 × 21 × 17 21.1g.
1701	♂	"	testis 11mm. 170 × 89 × 21 × 18 23.3g.
1702	♀	"	3 19-mm fetuses, 2 rt., 1 left 184 × 89 × 22 × 17 31.9
1703	♀	<u>Eutamias townsendii ochrogenys</u>	242 × 107 × 32 × 22 78.0g.
1704	♂	"	shot by AM Miller testis 5mm. 220 × 93 × 35 × 20 60.0g.
1705	♂	<u>Neotoma fuscipes monochroma</u>	testis 14mm. 420 × 192 × 38 × 34 293g.
1706		<u>Sylvilagus bachmani ubericolor</u>	testis 12mm. 3 Dermatobia in neck 330 × 14 × 78 × 56 679g.

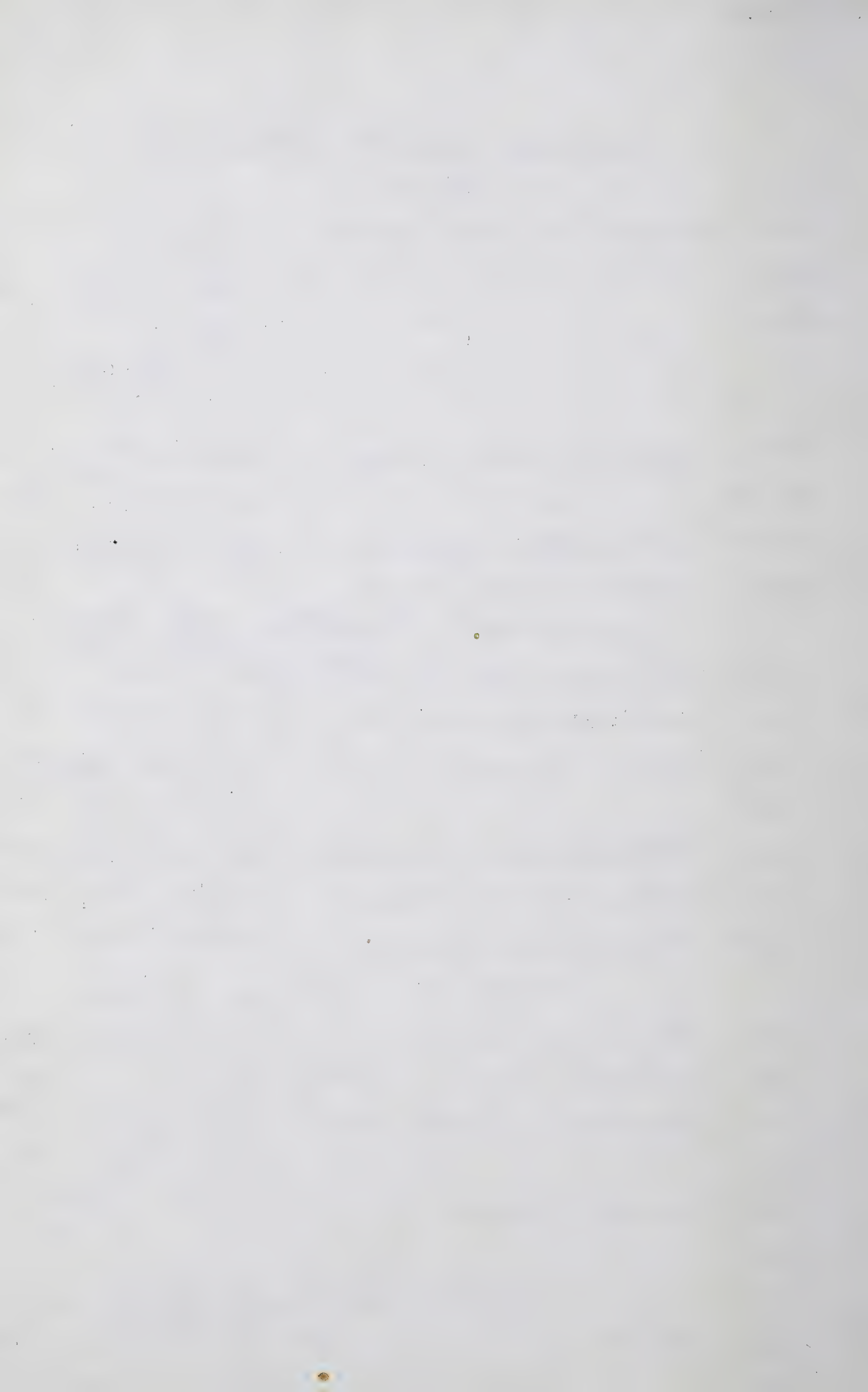
French Camp, 3100 ft., Humboldt Co., Calif. Aug 21

1707	♀	<u>Clethrionomys californicus</u>	3 fetuses 19mm. in left horn. 3 corpora 157 × 50 × 19 × 11 32.9g eye 2 1/2 mm. in left ovary. overnight in Doug fir.
1708		<u>Sorex townsendii humboldtensis</u>	[56] × [40] × 13 × 6 4.2g. testis 10mm.
1709	♂	<u>Peromyscus maniculatus rubidus</u>	198 × 104 × 21 × 18 23.6g no emb but recently parturient
1710	♀	"	188 × 89 × 21 × 16 21.6g. shot 9 pm. testis 7mm.
1711	♂	<u>Neotoma fuscipes monochroma</u>	345 × 172 × 37 × 29 57.5g. shot by Cogswell in gambel's brush
1712	♂	<u>Eutamias townsendii ochrogenys</u>	255 × 100 × 38 × 22 98.5g. testis 16mm.
1713	♂	<u>Citellus beecheyi douglasii</u>	525 × 211 × 64 × 30 973g

Aug. 22

1714	♂	<u>Clethrionomys californicus</u>	testis 10mm. same traps as 1707 147 × 45 × 18 × 13 27.1g.
1715	♂	<u>Myotis evotis</u>	Schoolhouse Peak 2800 in rock crevice in prairie. tested 6mm. 97 × 45 × 10 × 22 6.7g.
1716	♂	<u>Peromyscus maniculatus rubidus</u>	testis 10mm. 172 × 87 × 21 × 19 20.5g.
1717	♀	"	uteri thin. no emb. 165 × 81 × 22 × 17 18.4g.
1718	♂	<u>Passerculus sandwichensis</u>	shot by H. E. Cogswell 2250 ft 1 1/4 mi. N 2 mi. W Schoolhouse Peak
1719	♂	"	" " immature

Aug. 23 Schoolhouse Peak, 12800 ft1720 Eusathiaunder bark in north slope forest of Doug. fir
madrone, and Tan oak.



1949

8

Schoolhouse Peak, 2800ft., Humboldt Co., Calif.Aug. 23

- 1721 ♀ Loxep trumbidgei humboldtensis 6 early embryos. in north slope forest, no emb. 125 × 60 × 14 × 7 3.4g
- 1722 ♀ Loxep vagrans vagrans in sedge seep out in prairie. 108 × 43 × 13 × 7 5.1g.
- 1723 ♂ Clethrionomys californicus in north slope woods. Testis 11mm. 152 × 51 × 19 × 11 29.8g.
- 1724 ♀ Thomomys Uteri atretic, no scars or emb. In meadow at French camp. 187 × 57 × 26 × 4 84.0g.
- 1725 ♀ Loxep vagrans vagrans In sedge seep in prairie. Uterus large, no emb. 100 × 40 × 12 × 8 4.2g.
- 1726 ♂ Microtus californicus constrictus In sedge seep in prairie. Eye 3.5mm. Testis 6mm. 179 × 53 × 21 × 15 40.8g.
- 1727 ♂ Peromyscus maniculatus rubidus North slope woods. Testis 10mm. 183 × 92 × 21 × 19
- 1728 ♀ " " " North slope woods. 4 emb. N.R. 29mm. 203 × 80 × 22 × 19 30.5g
- 1729 ♀ " " " Sedge seep in prairie. 3 emb. 18mm. CR 184 × 90 × 21 × 19 24.2g.
- 1730 ♀ Peromyscus longicaudus French camp, 3100ft. 1 small emb. at horn 180 × 80 × 19 × 12 26.5g.

Schoolhouse Peak, 2800ft., Humboldt Co.Aug. 24

- 1731 Euseta Under bark on ground in Doug. fir, redwood, tan oak. N slope.
- 1732 Rhyscotriton " " " " " "
- 1733 ♂ Myotis evotis In rock crevice. Testis 6mm. 96 × 44 × 10 × 23 7.0g.
- 1734 ♂ " " In rock crevice. Testis 6mm. 97 × 45 × 10 × 24 6.4g.

French Camp, 3100ft.Aug. 24

- 1735 Clethrionomys californicus among mossy rocks in Doug. fir. Testis 8mm. Eye 2.5mm. 141 × 44 × 19 × 13 21.2g.
- 1736 ♂ Sciurus douglasii mollis-pilosus 316 × 119 × 52 × 26 Testis 28mm. 217.6g.
- 1737 ♀ Clethrionomys californicus Caught by Sullivan. Uterus atretic, no scars or emb. 143 × 48 × 19 × 13 20.8g.
- 1738 ♂ Peromyscus maniculatus rubidus Caught by Sullivan at edge of sage grass. Testis 12mm. 185 × 95 × 21 × 17 21.7g.

Aug. 25

- 1739 ♀ Peromyscus maniculatus rubidus caught by Sullivan, south slope. Postpartum. 198 × 101 × 23 × 19 23.6g.
- 1740 ♂ " " Doug. fir. Testis 10mm. 186 × 99 × 21 × 19 19.6g.



1949

9

1741	♂	<u>Peromyscus maniculatus rubidus</u>	testis 6 mm 156 x 81 x 21 x 17 17.1g.
1742	♂	"	testis 10 mm 176 x 89 x 22 x 17 20.3g
1743	♂	"	testis 9 mm 166 x 91 x 21 x 19 18.1g.
1744	♀	"	v.g. large, no emb. 172 x 91 x 21 x 18 17.8g.
1745	♀	<u>Sciurus douglasii molli-filosus</u>	shot by Cogswell. uterine thick, no emb. 299 x 123 x 51 x 24 170g.

Coyote Peak 2700ft., Humboldt Co., Calif.

1746	♂	<u>Zapus</u> ^{principis} ~~parvifrons~~	testis 5 mm - no fat. 217 x 142 x 36 x 14 15.6g.
1747	♀	"	uterus tiny, no emb. 226 x 139 x 31 x 14 22.2g

3 mi. N Willow Creek, 700ft., Humboldt Co., Calif.avg. 27

1748	♀	<u>Myotis volans</u>	no emb. no fat 101 x 45 x 10 x 14 7.2g.
1749	♀	<u>Sorex trombridgii humboldtensis</u>	no emb. 111 x 51 x 13 x 8 5.0g.
1750	♀	<u>Sorex pacificus pacificus</u>	no emb. 140 x 64 x 16 x 9 8.5g
1751	♂	<u>Microtus oregoni oregoni</u>	testis 4 mm. 113 x 29 x 15 x 9 16.0g.
1752	♂	<u>Peromyscus maniculatus rubidus</u>	testis 9 mm. 180 x 86 x 22 x 17 20.8g.
1753	♂	"	testis 10 mm 129 x 89 x 21 x 18 23.7g
1754	♀	"	uterus stent, no emb. 188 x 99 x 22 x 19 20.8g.
1755	♀	"	Placental scars, no emb. 170 x 85 x 20 x 17 20.8g.
1756	♂	<u>Myotis californicus californicus</u>	no fat. testis 5 mm. 80 x 33 x 7 x 13 3.2g.
1757	♂	"	no fat. testis 5 mm. 84 x 38 x 7 x 13 3.8g.

1758 Rana boylei1759 Dicamptodon ensatus1760 ♂ Gnasticus gnoma1761 Dicamptodon ensatus

along stream in alder- maple forest

on open sand 1 foot from stream
shot 2 p.m. in brush + 2nd growth, being
sucked by worm. testis 3 mm. 65g.
In dry drift under log.

1949

10

3 mi. N Willow Creek, 700ft., Humboldt Co., Calif.Aug 281762 Neotrichus gibbsii gibbsii1763 ♀ Microtus oregoni oregoni1764 ♂ Peromyscus maniculatus rubidus

1765 ♂ " " "

1766 ♀ " " "

1767 ♀ " " "

1768 Bubo1769 ♂ Sciurus griseus griseus

testis 3 mm.

110 × 42 × 16 × 8.8 g.

Other thin, no emb.

115 × 34 × 18 × 9 15.1 g.

testis 6 mm.

163 × 80 × 21 × 18 20.2 g.

testis 10 mm.

159 × 79 × 20 × 17 20.0 g.

Placental scars. no emb.

169 × 84 × 21 × 18 19.1 g.

testis 3 mm.

166 × 88 × 21 × 18 17.5 g.

at night along dry road.
shot by H. Campbell.

605 × 273 × 83 × 41 866 g.

Aug. 291770 Sorex townsendii humboldtensis1771 ♀ Sorex pacificus pacificus1772 ♂ Neotrichus gibbsii gibbsii1773 ♂ Peromyscus maniculatus rubidus 191 × 99 × 21 × 17 27.1 g.

108 × 50 × 13 × 8 4.2 g.

no emb.

134 × 60 × 16 × 10 10.0 g.

testis 2 mm.

107 × 37 × 15 7.6 g.

2 mi. N Willow Creek, 600ft., Humboldt Co.Aug. 291774 ♂ Sorex townsendii humboldtensis1775 ♂ Peromyscus truei sequoiensis

1776 ♀ " " "

1777 ♂ " " "

1778 ♂ Sorex townsendii humboldtensis1779 ♂ Sylvilagus bachmani ubericolor

testis 5 mm. caught in scrub.

112 × 54 × 14 × 7 4.4 g.

testis 13 mm.

196 × 103 × 23 × 25 24.4 g.

3 small embryos in left. horn

189 × 97 × 24 × 24 25.0 g.

testis 7 mm.

178 × 91 × 24 × 24 21.0 g.

In dry brush.

111 × 49 × 7 2.7 g.

shot by Killion.

309 × 10 × 75 × 57 684 g.

3 mi. N Willow Creek, 700ft., Humboldt Co.Aug. 30, 19491780 ♂ Trogodytestestis 1 mm. One of pair two, shot 7:00 a.m. in
maple-fern forest along stream 9.2 g.2 mi. N Willow Creek, 600ft., Humboldt Co.Aug. 30, 19491781 ♀ Lepus californicus californicus

shot 8 p.m.

601 × 84 × 139 × 123 50 lb.

1949

Willow Creek, 500ft., Humboldt Co
Aug 30

- 1782 ♀ Eptesicus fuscus bernardinus shot in evening.
 111 × 45 × 11 × 17 13.2g.
 1783 ♂ " " " " testis 6 mm.
 111 × 39 × 12 × 17 17.1g.
 1784 ♀ " " " " no emb.
 119 × 45 × 12 × 18 15.2g

3 mi. N Willow Creek, 700ft., Humboldt Co
Aug. 31

- 1785 ♀ Myotis californicus caninus 76 × 34 × 7 × 14 3.0g

Willow Creek, 400ft., Humboldt Co
Aug. 31

- 1786 ♂ Myotis californicus constrictus testis 8 mm.
 193 × 57 × 23 × 16 67.8g
 1787 ♀ " " " " uterus thick, no emb.
 170 × 45 × 21 × 16 43.2g
 1788 ♀ " " " " 3 emb. 23 mm CR, 2 st. 1 left.
 152 × 41 × 20 × 15 36.6g
 1789 ♀ Melospiza blackberry - ridge. Slight fat.
 In mouse trap. no fat. 21.2g.

4 1/2 mi. by road East of Bayside, 400ft., Humboldt Co, Calif.

Sept. 2, 1949

- 1790 ♂ Corynorhinus rafinesquii townsendii 102 × 45 × 11 × 38 8.3g.
 alone in attic. Caught Aug. 31. Testes 13 mm. no fat. accessories not large,
 4 mm. across and sem. ves. 2 mm. long. Killed Sept. 2.

Falk, 100ft., Humboldt Co, Calif

Sept 2, 1949

- 1791 ♂ Corynorhinus rafinesquii townsendii 108 × 51 × 11 × 37 8.3g.
 alone in attic. Caught Aug. 31, killed Sept. 2. testis 12 mm.

JOURNAL

Pearson
1949

Journal

Aug. 8 Big Lagoon, Humboldt Co., Calif

Left Berkeley 5:45 a.m. in Dodge with Cozswell; Miller, Murray, and Gullion in other car. Route 101 all the way to Big Lagoon where we arrived about 6:15 p.m. Only mammal stop en route was at Benbow Hotel where Cozswell and I took a quick look in the stable for bats. People + horses were lining in it, saw no good bat places in this building.

Set out 70 $\pm$ museum specials baited with walnuts in thick grass, weeds, + Scirpus on ~~south~~^{east} edge of lagoon where ^{ranch} road crosses creek. Saw no runways, droppings, or cuttings. Many low-flying small bats at late dusk over ranch road between forest + lagoon. Also put out 2 steel traps unbaited after dark.

Aug. 9 my traps in marsh held 3 Sorex vagrans and 5 Zapus.

Cozswell along brushy edge of spruce woods caught Peromyscus and Sorex trambridgii. Murray Peromyscus. No Microtus! Looked in ranch buildings for bats but few good places for them. Underneath ranch house seems satisfactory for Caryacus but nobody home.

Put out 50 Sherman live traps baited with walnuts along the log "wall" below the big log pond - mostly on the edge of or in thick Scirpus. Saw one set of Microtus? droppings there. Also 3 raccoon sets along stream and 3 other steel traps along log "wall". Also set 35 Museum specials in mossy gloomy spruce woods baited with walnuts. Gullion set 33 in same sort of place.

1949

2

Jacklighted till 10 but saw nothing except bats. 1 Peromyscus (rebased) and 1 Sorex in live traps.

Aug. 10 Out of about 125 traps out got 2 new species: Perthodactylus and Sorex pacificus. Threw out 3 S. rogersi, 1 townsendii, 2 Peromyscus. No disturbance and no baits removed from steel traps. The scirpus marsh yielded no Microtus, in fact the only one so far is an immature Microtus longicaudus? from Cogswell's line.

Picked up the last of the ^{snap} traps in east marsh and put them in the scirpus marsh, baited with oatmeal. I get the impression that (judging by droppings) mice are attracted to the places where corn have chewed off the scirpus and the new shoots are coming out for a couple of inches. There are very small droppings.

Traps now out: 50 Thomomys in scirpus, $\pm$ 40 Mus mus in scirpus, 7 steel; 6 Schuyleria in scirpus, 33 Mus mus in spruce-fern grass.

Aug. 11 3 Microtus at last - in oatmeal-baited museum specials in scirpus marsh, all M. longicaudus. Nothing in steel traps and nothing in the Schuyleria - some of the latter in very nice rabbit-sized runways. Two more Zapus in spruce-fern grove, one of them in an almost pure fern stand with practically no grass or sedge within 5 yards. Otherwise more Peromyscus, Sorex rogersi + pacificus.

Much skinning. Set out about 15 museum specials with ^{oatmeal} ~~substrate~~ in dry grass meadow SE of camp and 7 Schuyleria + rat traps around 2 wood rat nests.

Threw out 6 Peromyscus, 1 Sorex pacificus, and 2 trap-caught song sparrows and 1 young thrush from trap in spruce-ferns. Trap lines have not caught much during daytime.

1949

Jacklighted across marsh and around Scirpus but saw nothing. Bats were skimming log pond at 9:00 and 9:45. Shot 1.

aug. 12 Picked up the traps in spruce-fern grove. Baiting them with watered yesterday may have accounted for catching 2 Microtus oregoni in the middle of this thick woods. Also 2 S. poirfina and 2 Zapus and 1 Peromyscus. A racoon? had disturbed about 20 snap and live traps in the Scirpus but didn't go near the bechweilers or ~~steel~~ steel traps. This Scirpus line caught 3 Peromyscus, 1 Microtus longicaudus, 2 Zapus, and 1 song sparrow. 2 woodrats up the road to the east and 1 Peromyscus. All 3 racoon sets along the river were sprung by coon, hair left in one and a toe in another. Reset them at different places along the river in pairs. Nothing in the dry pasture traps.

Threw out 5 Peromyscus, 2 poirfina, and 1 Zapus.

Having picked up the Scirpus and spruce-fern traps, put out about 30 along a stream in big redwoods east of the lumber camp. This is gorgeous redwood with thick fern, rotten logs, moss, etc. Floundered out of this tangle after dark.

aug. 13 Redwood traps had only 4 Peromyscus manic, 2 Zapus, and 2 Sorex poirfina. Set the rest of these 50 in the redwoods. Looked in 5 big hollow redwoods for bats; none. Set around 2 more woodrat nests making a total of 4 now. Only one mouse in the dry grass-thistle meadow, a Microtus oregoni. One more Neotoma from same house - a smaller one, hence 3 sizes at same house. Racoon traps untouched.

1949

4

Aug 14 Only 1 mouse (Zapus) out of 50 traps in big redwoods. Pachyptila here. Two more wood rats and a Spilogale at the woodrat nest. also 1 Microtus longicaudus in the dry grass + thistle a few feet from M. oregoni yesterday.

Evening was cooler and milder than most. Myiagra flight sparser and later than usual. Netted out.

Aug 15 2 Neotomas and 1 Sorex pacificus. Nothing in grass-thistle. Shot a Sylvilagus bachmani at 7 a.m. along road south of camp. Then drove to Eureka to have truck fixed. Several hours shopping, bathing, and sightseeing in Eureka. Two points of interest in Eureka are the Carson home (the 1865 gingerbread mansion, beautifully kept up, of a lumber baron) and the old abandoned Gunther mansion on an island a mile or so out in the bay. The latter looks from shore like a gorgeous bat locality. Home 7 p.m.

~~Aug 16~~ Jacklighted after supper. Heard woodrats and saw cat-size eyes on road at bridge east of camp but couldn't get near it.

Aug 16 Only trapped specimen 1 Microtus longicaudus in dry pasture of grass + thistle. also 1 very inf. M. oregoni near it. Drove from Big Lagoon to Mad River, stopping at all likely looking bat roosts. Best ones were Big Lagoon Bridge, abandoned store in center of Trinidad (Trinidad), and Mad River Bridge 4 mi. N of Arcata. Only the latter had any bats, all Eptesicus.

1949

Put 3 mink sets in marsh below log pond, 2 of them where Bullock shot at one yesterday.

Evening cool, clear, few bats feeding near spruces but several out over pond.

Aug. 17 No mink in traps. Set 4 more, making 7. Also set 44 oatmeal-baited museum specials in short grass ~~along~~ in marsh below log pond dam.

After ~~lunch~~ ~~break~~ drove with Murray up towards Kane Ranch where Cogswell had reported grained young redwoods with woodrat nests at the bottom. Stuck the truck while turning around so Murray set the woodrat traps while I went to Kane Ranch for help. Spent rest of afternoon trying to extricate truck.

Aug. 18 Up early to hunt night hawks & bats. 4 night hawks were circling over the lower Maple Creek bridge and headed south without circling any more at about 5:35. The last bats had disappeared before this, heading toward the woods to the east in remarkably straight flight — 50 yards or more without a swerve.

Nothing in 46 traps in short grass in marsh, nor in mink, weasels, and woodrat set near camp. One Spilogale in Schugler in clump of young redwood up on the hill toward Kane Ranch, and 2 woodrats nearby.

Put about 25 volant-baited museum specials along 2nd stream north of lagoon. Sandy loam along the stream with small spruces and alder. Not really gloomy forest.

1949

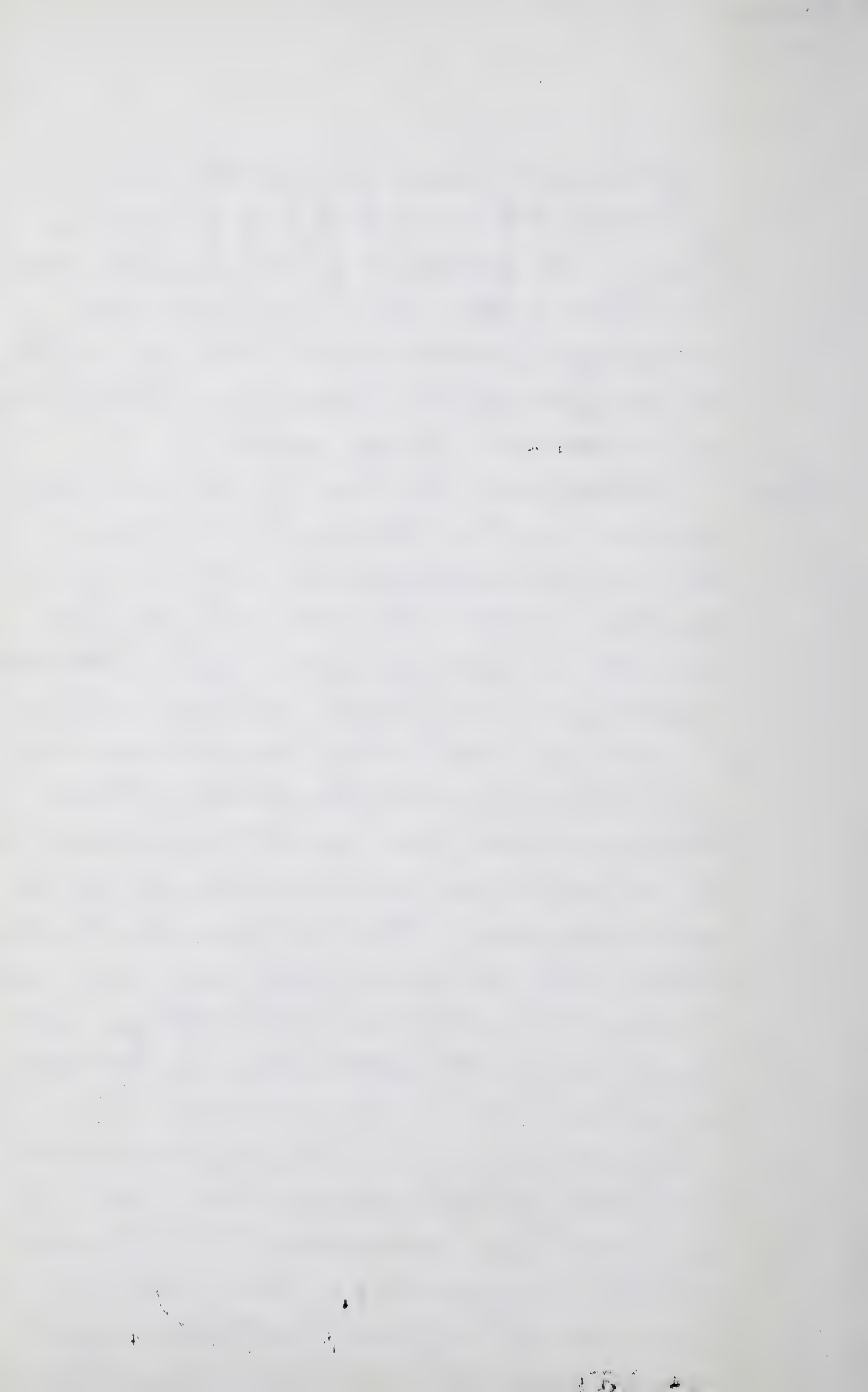
Spent the night at Trinidad looking for bats. Saw none in the old store at the crossroads at 9:30 p.m. but some flying in attic of the old Holy Trinity Church at various times between 9 and 11. Because of great numbers of 1x12" roof supports and several holes in the roof, shooting and netting were difficult. No specimens. Checked buildings again 5:30-6:00 a.m. but saw no bats.

Aug. 19

Looked under north end of Mud River Bridge again and found 5 Eptesicus at 6:30. Several other nicely timbered bridges had nothing. Trapline along stream in spruce-older woods north of Big Lagoon Bridge had 2 Peromyscus maniculatus, 2 Zapus, ~~1~~ 1 Sorex townsendii, and 1 Sorex herodias. 46 traps in short grass in marsh again caught nothing. No muskrats or coons either.

Left before lunch for Oriskany, thence southeast up to the bald tops or "prairies". Now camped at French Camp, 3100 ft., near one of the prairies and amid Douglas fir plus some incense cedar. Put out 50 Museum Specials along trick in meadow, through clean-floor fir woods, and in broken clearings. While setting saw rabbit droppings, gopher droppings, long straight ~~gopher~~ mole tunnels, deer droppings, heard chipmunks, and saw 1 tree-house nest:

Saw one bat flying high and fairly straight east at early dusk, too large for Myotis californicus. There in camp saw a few others. Traps started snapping at bat-flying time and I took 6 Peromyscus out of my first ten traps before 9:30 p.m. One trap went off about 7:45 followed by a few agonized squeaks audible 75 yards away. Probably a Neotoma.



1949

7

jacklighted along the road and shot one brush rabbit. Saw nothing else.

Aug 20 6 more Peromyscus in my line and 1 Neotoma.

Hunted down the road for about a half mile and saw many chipmunks; shot 1. Deer tracks in road, and "skunk?"

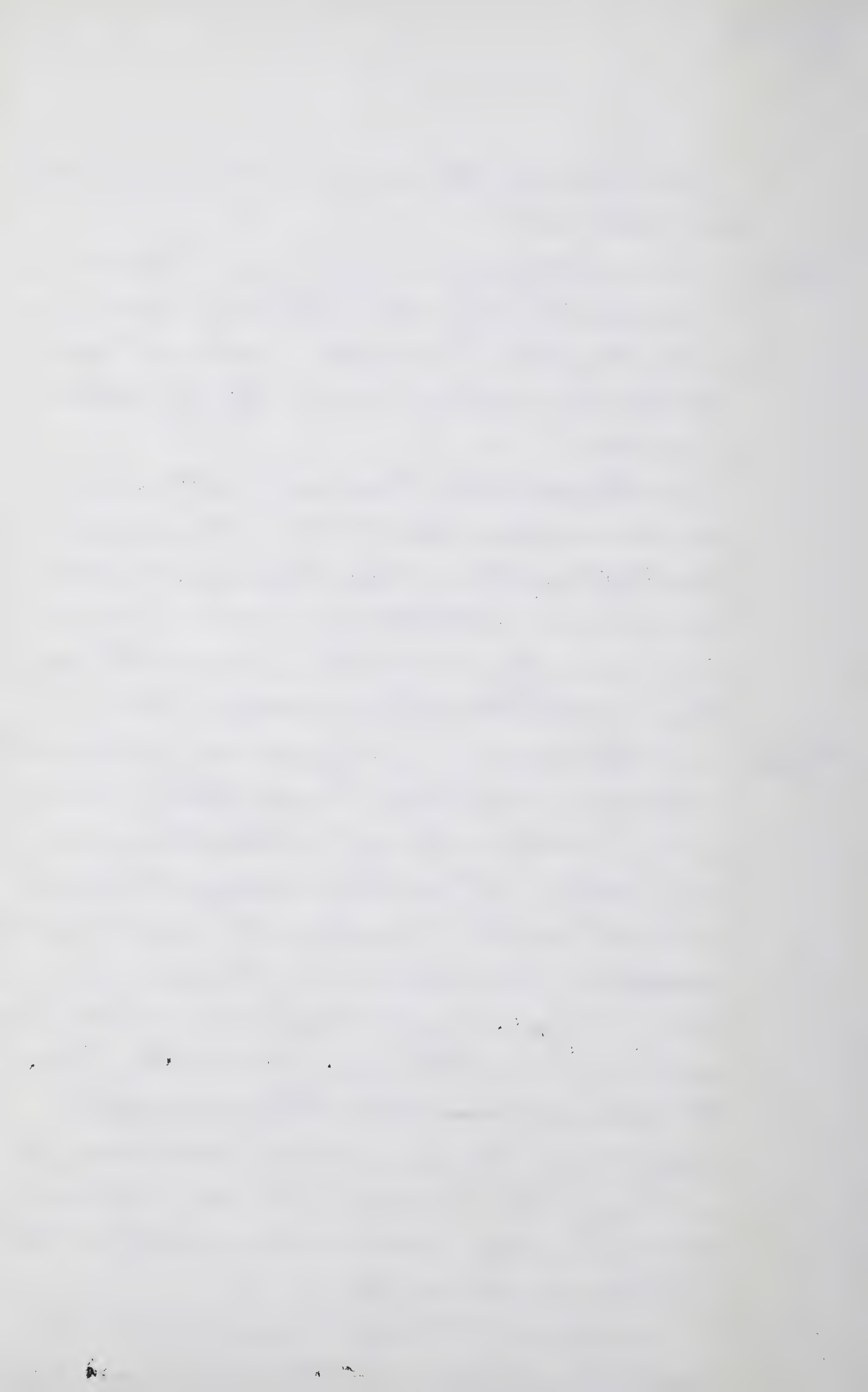
Left traps in same place and set 5 traps for moles in Douglas firs.

Drove after supper to the Fullwood Ranch (about 2 miles east and 1 mile down toward Redwood Creek). Nice old house and barn but no bats or obvious droppings. A water tank we hoped would attract bats at dusk but saw only 2 or 3 and were unable to net or shoot any of them. Jacklighted 2 Neotomas near spring. shot 1.

Aug 21 1 Clethrionomys, 5 Peromyscus, and 1 Sorex sp. (at an opening in mole tunnel). Drove Miller to Oriskany at 7 a.m. and stopped at about 15 hollow trees on way back. No bats. 3 very suitable buildings at Sans Prairie but no bats. Many chipmunks, ground squirrels. also stopped at several other barns but no signs of bats. at Lyons Ranch Mrs. Lyons said she has seen numerous bats flying, but mostly later in the year. She remembered another group of people collecting birds + mammals here many years ago.

Put out about 20 more Museum specials among the moss-covered rocks in young fir where Clethrionomys was caught.

One bat seen at late dusk: large, straight flight. Jacklighted nest along road. Shot at one pair carnivore? eyes



1949

in broken blow road. Sound of shot flushed coveys of just out of young Doug fir and one Peromyscus at my feet.

Aug 22

One more Clethrionomys, 5 Peromyscus, and 1 young Neotoma in traps. Left after breakfast for the big prairie around Schoolhouse Peak. Set 49 natural-baited Shermans and 6 museum specials mostly along a wet sedge seep but a few out in grass; the sedge about 100 yds from a tongue of oaks in a ravine. Watched ground squirrels and Murray & I found 2 Myotis arcticus in rock crevices. Put out two gopher traps around camp and caught one before supper.

Early supper and drove with Murray & Cogswell to Schoolhouse Peak. Just before dark set about 30 natural-baited museum specials in moist woods on north slope near cattle gap east of the fire tower. Woods is Doug. fir, madrone, and tan oak, with thick duff, rotten logs, etc. Many tunnels etc. Most sets were "Blarina" sets at natural holes or holes poked into tunnels.

Set by water trough until dark but saw only one bat and it didn't drink. Lights of Eusebius visible.

Aug. 23

Trap line in sedge seep in prairie caught 2 Sorex vagrans, 1 Microtus californicus, and 6 Peromyscus. Nothing except 1 Peromyscus out in grassy prairie. The line in woods on north slope caught 4 Peromyscus, 1 Clethrionomys, ~~and~~ 1 Neotoma fuscipes, and 1 Sorex trambridgii. Put about 20 more museum specials in this line. The remains of the Clethrionomys line at French Camp caught nothing.

at noon climbed big Doug fir at French camp and scared out one tree shrew which Cogswell caught down below. Skinning and walking in burned woods in afternoon. Beat on many hollow trees but no results.

Jacklighted after dark and heard several woodrats, saw two bats and one deer.

aug 24 Shot one red squirrel in camp after breakfast. 25 traps for Clethrion among mossy rocks in Doug fir caught 1 more Clethrion. Also 2 Peromyscus near spring at camp. 55 traps in sedge seep in prairie and across prairie caught 3 Peromyscus, no was. The line on north slope of Schoolhouse Peak caught only 2 more Peromyscus. Under same ~~region~~ pieces of bark as yesterday's Ensatus got 2 more Ensatus and one Rhyacotriton. Certainly no water within 50 yards of this place.

Woodrat specimens are being spoiled by fly eggs. The flies lay under the belly after the specimens are pinned out; then the eggs hatch into a gooey mass of larval. Other specimens not bothered much.

Set out 50 museum specials with walnuts along the road near the fork to Hoopa Valley. Mostly broken, chinquapin, madrone, and scrubby tan oak. No bats at dusk but 3 night hawks flew over once.

aug 25. New traps along brushy roadside caught only 5 maniculatus. Old Clethrion line among mossy rocks only 1 maniculatus. Skinning in a.m., packing etc. in afternoon in preparation for leaving French Camp for Willow Creek.

1949

A Mr. MacComb, owner of the MacComb ranch near here, stopped by in jeep with a friend. MacComb, a tough hombre, introduced himself as a Fish & Game Coyote trapper. Says there are few left around here. He remembered Grinnell et al and said their camp (Coyote Peak) was along this road where now stands a cabin at the junction of the road over Coyote Peak, a private logging road, and this road. MacComb talked big and probably not too accurately, although he did recognize Peromyscus as a mouse that lives in nests up in fir trees. He claims there used to be more big striped skunks (not spotted skunks) here, and also grey squirrels. Says there are also flying squirrels and kangaroo rats - to which his partner agreed. Also mentioned grey fox. Says there is a small mouse not represented in our collection that eats great quantities of oat hay in the barns.

MacComb is related to the Lyons (refers frequently to "Anton" [father] and "Jean" [son]) and says they settled here in 1850's. Says they settled up here rather than down below near Klamath River because of better weather, fewer miners to feed, and less Indian trouble. Claims that the prairies are being invaded by fir and that the prairies were maintained by burning by Indians and early settlers. He remembers when the meadow here at French Camp was much larger.

Early supper, then drove to south slope of Coyote Peak where road leads to cabin, spring, and a small pool (15 x 30 ft) in the forest (fir, bay, madrone, oak). Arrived about 6:20 and

1949

2 bats were flying already by the pool. They disappeared before I could shoot at them. They did not return in 5 minutes so I started to set out Museum Specials along a small stream through meadow with some green grass, mostly dry grass, and a few clumps of sedge. Baited with walnut and sedge. Had only set about 22 when I saw bats flying, so went after them. They were feeding at edge of woods, still quite light, only two bats, quite small. Probably Nyctotis calif. From then until 8 p.m. numerous bats flew around the pool or actually drank. Tried shooting at first but not enough open sky to see against. Then tried netting until 8, when the numbers had diminished. at least 3 kinds present: ① small, quiet, slow flyers that almost hovered as they drank; ② large faster that made loud wing-flapping sounds; ③ large very fast that made wind-whistling sounds as it flew. Then jacklighted for a while. Saw and missed 1 raccoon, saw 1 Peromyscus manic., removed 2 from traps, and heard great horned owl, screech owl, and think one scree of barn owl. Then more netting at pool until 10 - but no bats.

Aug. 26

Saw bats flying at 5 a.m. near pool but couldn't get any. Traps held 4 more maniculatus and 2 Zapus pacificus. [yesterday at 6:10 p.m. between Schoolhouse Peak + Coyote Peak passed 4 grouse, 2 of them stood within 6 feet of the road as I drove past at 5 m.p.h.]

In leaving French Camp my impression is that

1949

Peromyscus manic is the most abundant and important mammal. The prairies seem to have no small mammals except Microtus, gophers, and ground squirrels*. The region is interesting in that it has Peromyscus longicaudus of the Doug fir-Redwood strip as well as Zapus pacificus. It would be interesting to know what happens to Zapus trivittatus. We have had one foggy morning here on the ridge, but the valley of Redwood Creek has been filled with fog each morning that I have seen it (at least half the mornings).

* Bear feed on the numerous grasshoppers out in the prairie, and there may be jack rabbits.

Left about noon for Willow Creek via Martin's Ferry + Wentepec + Hoopa. Klamath Valley near Hoopa is quite warm and has digger pine. Stopping in Willow Creek, then to Salzer to see Forest Ranger and talk campsites. The store keeper at Willow Creek had suggested Horse Lento? or Rocoon Creek, both reached by crossing the river $\frac{1}{4}$ mi. north of Willow Creek (suspension bridge). He also admitted that there were many bats in his house and in the house next door. Decided to go to Rocoon Creek, 3 mi. north of Willow Creek, 700 ft. Arrived 4:30 p.m. Very nice camp site along stream in maple-alder-dogwood-fir forest. Set out 55 traps (museum-special with walnuts) along the stream. Great numbers of Rana boylei and salamanders (Triturus + Dicamptodon), a few large crayfish. The woods through which

1949

the trap line runs are chiefly alder + maple with a few old Doug firs. Many swordferns + madenhair, considerable moss. Soil fine sandy.

Bats started flying in our glade well before dusk (6:40). Shot one Myotis volans and netted 4 M. calif. before dark.

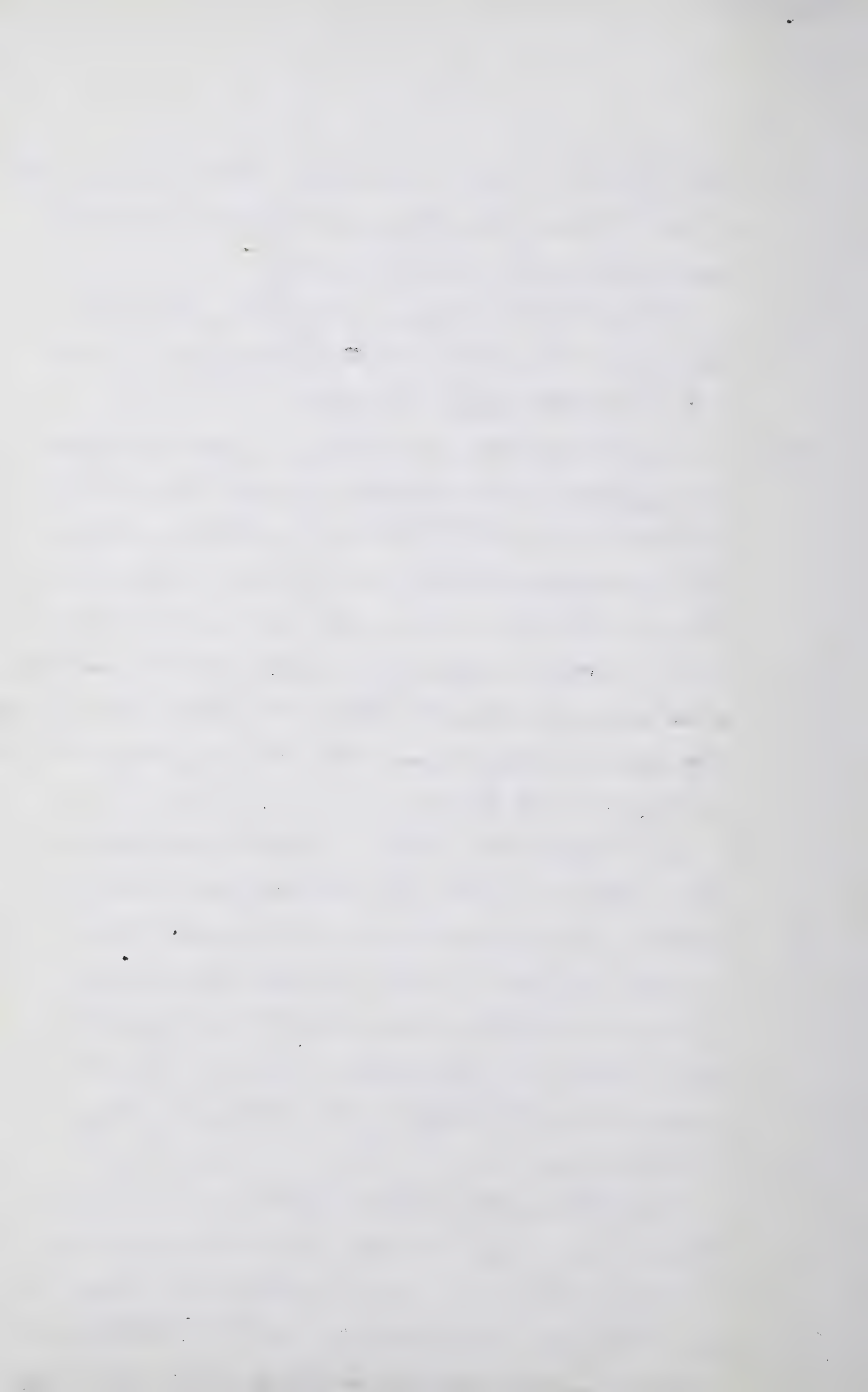
aug 27

Trap line yielded 9 maniculatus, 1 Joseph townbridgei, 1 S. proferens, and 1 Microtus oregoni. Skinned these and bats in a.m. Started to put out another line in p.m.

but saw a pigmy owl being scolded by wrens or crows - tits so shot him with .22 rifle and came back to skin him. He was in brush + oak. Later added about 20 more museum specials baited with oatmeal to my original line along Coon Creek. The original 55 caught nothing during the day.

Bats appeared at 6:41. Tried the concussion theory on them. First shot with .12 ga. caused one to tower upwards slowly in what seemed to be a confused fashion. He did not alight, however. Two more shots were without obvious effect. I don't think any of the bats involved were Myotis volans. Probably californicus. Tried netting again but didn't get any.

Mr. Patterson of the P Ranch stopped in. First ranch between here and Willow Creek. He didn't seem to know much about the animals around here but on his summer range in the hills above Horse Lento ($\pm 5000-6000$ ft) he talked about mountain beaver, chipmunks, bushy-tailed woodrat. Claims to



1949

have shot 29 bears in one winter around here.

jacklighting after supper. Heard screech owl and wood rat.

aug. 28

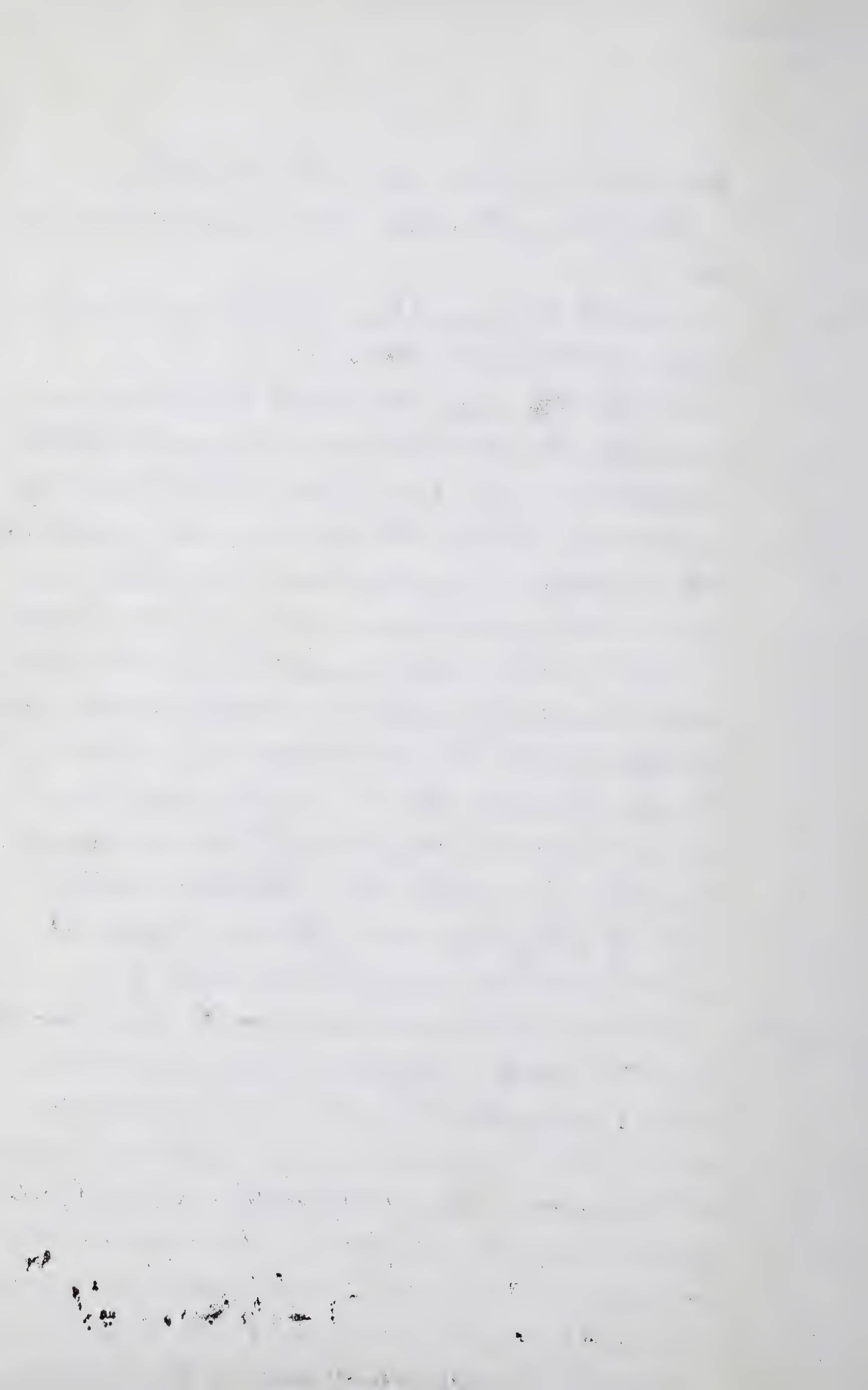
Traps held 7 maniculatus, 1 Neotrichus, 1 Microtus oregoni. Most had bait stolen.

Went to Willow Creek after lunch to look for bats. More in the nice batty attic of the Willow Creek Hotel, must be ~~under~~ ^{between} the corrugated iron roof and shingles. Put out about 30 more museum specials with walnuts in dry scrub of oak, madrone, manzanita, poison oak, gooseberry. Saw a few small woodrat houses and a few woodrat droppings.

Went to Willow Creek after supper to hunt bats. Looked in the attic of the store-keeper's house (droppings) and under the bridge over the Trinity River (droppings). Waited by the creek under roof of hotel but no bats emerged from it. By 6:45, however, (still quite light), there were several large slow-flying bats aloft. Later there were at least 8 of these large ones (Eptesicus or bigger) and several smaller ones. Did no shooting.

aug. 29

The traps in the scrub across from the peach orchard caught 2 Sorex trumbidgei?, 4 Peromyscus truei, and 1 L. maniculatus. The old line along the stream caught 1 " and 1 each of Sorex trumbidgei, S. arizonae, and Neotrichus. Also 1 maniculatus aroundy in bob. Seems to have been a good night for shrews bats in my line and Murray's, and I saw 2 furry forms, while jacklighting last night, that I took to be shrews. Heard chipmunks around camp for the first time.



1949

both in the morning and late afternoon.

Drove to a mine tunnel a few miles north of Hoopa. one branched horizontal tunnel perhaps 300 ft deep and two almost vertical tunnels branching off from this. all fairly damp, trickle of water on floor, - but no bats or droppings. also looked in attic of Brunsd's store in Willow ~~Creek~~ ^{Creek} (inc attic for *Corynorhinus* - but no bats) and in attic of a house near Willow Creek crossroad. all these places looked like good bat roasts - why no bats? Put out about 16 museum species along a trickle below steep bank along road at camp - where I saw skunks? last night. Bank mostly ferns ~~shrubs~~ with dense dogwood-oak-madrone forest at top of bank.

Went bat shooting in Willow Creek after supper. Bats appeared while it was still light (6:50) flying too high for shooting, then gradually worked lower. at least two sizes. Murray and I got 5 of the big slow ones - Eptesicus. all had disappeared by 8 p.m.

Shot jack rabbit on way back to camp.

One of the numerous people with whom we talked today mentioned a limestone cave south of here. Reached by driving from Willow Creek toward Salzer. where the road crosses the river turn right on the old county road and drive to Mr. Gould's place. Gould's brother-in-law ~~owns~~ ^{owns} where the ^{small} entrance to the cave is!

While jacklighting after supper found and caught a

1949

chipmunk roosting on a bolt under the little bridge at our Coon Creek Camp. a large ~~amount~~ but disorderly heap of moss on one of the piers may have been remains of a nest.

Aug. 30 About 100 traps out, 20 of them new sets, but only 2 sprung - yielding 1 *Peromyscus*.

While hunting chipmunks about 10 a.m. saw another singing owl perched at top of big madrone. missed.

Went battery to Patterson ranch in afternoon. Mr. Patterson told of 3 bats roosting in a rock over his bed last night. Could not find them. Set 60 Museum specials baited with molasses + oatmeal west of the Trinity River on the flats north of the bridge. Most of the traps along a small stream bed, dry in most places, choked for the most part with blackberry, willow, sedge, junos, *Equisetum* + water cress. Saw *Microtus*? droppings in several places. Blackberries ripe and abundant.

One very orange *Myotis calif* appeared in our camp grove at 6:15. Collected him by the concussion method. On about half of the dozen occasions when we have shot at bats under the leafy canopy of the maple grove at camp here the bat has been obviously confused and has either looked or spiralled slowly upward. True for both *My. calif.* and *My. volans*.

Packed specimens for return tomorrow.

1949

Aug. 31 *Neotoma* caught 5 *Peromyscus*, 1 song sparrow, and 3 *Microtus calif.* almost all near the ditch or stream. Nothing in the dozen or so traps out in a fallow field (sparse grass and $1\frac{1}{2}$ foot tall dead weed stalks).

Left at 11 for home via Arcata, Eureka. Route 299 to Arcata repeats the vegetational changes noted in dropping down from French Camp to Weitchpec. Decrease of *Knodone* etc. with increased altitude, improvement of Doug fir. Some incense cedar as at French Camp and some large patches of prairie. There has been more lumbering, grazing, etc. along the 299 route, however.

Stopped at Anita's two bat localities at Bayside and Falk and caught one or *Corynorhinus* at each. Also looked in a few more houses and bridges in the Eureka region but found no bats. Home 11 p.m.

Species Accounts

Birds

Mammals

Birds

Osprey

Aug 30 Willow Creek, 500ft. 3 p.m. Saw young? osprey
circling overhead at about 200ft. altitude carrying a
fish in talons, ca. 12-inch fish

Night Hawks

aug 24 3 flew across clearing at Fench Camp at 7:20 p.m.
Not feeding, not circling. Two flew low and one high.

1949

anna hummingbird

Sept. 12 ^{of LSB} male was flying and feeding when I went into court at 5:55 p.m. Perched in alder at east end until 6:05 when another hummer flying flew nearby. First one took off and flew to center of court and fed + perched alternately until it returned to same place on same limb of alder at 6:10. Watched until 6:50 (almost dark) but no further flights.

Sept. 13 Returned quietly at 3:00 A.M. ♂ hummer was at same place. Grabbed him. He gave a few complaining squeaks but was unable to fly. Felt slightly warm to the touch. Temp. outside 15°C. Put him on floor of cage and brought him inside immediately to temp. 21°. Was clearly unable to fly. First flight 3:11. appeared normal at 7 a.m.

Mammals

Sorex vagrans

aug 11 Vagrans has shown up so far in thick tall Scirpus,
grass - marsh, and spruce-fern grove.

aug 15

Sorex pacificus

- aug 10 Took several today in many habitats: deep in 8-foot *Scirpus*; edge of spruce stand near logpond, and deep in spruce-ferm grove.
- aug 13 Continues to show up on everyone's trap line. Two today in my line along stream in big redwood forest east of the lumber camp, 300'.
- aug 15 One in rat trap along occupied woodrat nest.

Sorex hendleri

aug. 19 Caught one on walnut-baited museum special at very edge of stream half mile north of Big Sagoon bridge. Trap was in somewhat bushy alder-spruce forest with skunk cabbage and fern. Definitely woods, although 100 yds downstream and through a concrete culvert under the road was a grass-sedge meadow. Nearly in similar sets caught Sorex trambridgei, Zapus, and Peromyscus maniculatus.

Neurotrichus

aug. 28 Took one under a clump of ferns near stream through maple-alder-fir-oak (Toon Creek, 3 mi. N. Willow Creek). Trap was baited with oatmeal and the shrew-mole seems to have been eating the bait. Salivary glands not large.

Scapanus orarius

Aug. 9

One of the boys living in the ranch house found a mole lying in the middle of a path. The tail and hind feet were completely missing, the skull was cracked, and there were numerous contusions, but it was freshly killed. I seem to remember several other moles in MVZ with back feet gone.

Myotis yumanensis and/or lucifugus

- aug 9. Bats in large numbers flew at late dusk between spruces and log pond and over camp. Two shot proved to be this species and most looked similar.
- aug 10 Started bat hunting at dusk in meadow east of camp but only bats seen were about 5 flying rapidly towards nest, none circling. Then went to spruces by log pond where many were circling. Shot 2.
- aug 11 Usual dusk flight and also some skimming pond at 9:00 and 9:45. Shot one of these by gocklight.
- aug 13 Bat flight continues to follow usual pattern - appear about 7:30 between spruces + pond, then work out over the pond at about the time it becomes too dark to shoot.
- aug 14 Evening cooler than most and milder. Bat flight less dense and their feeding more scattered. Appeared later than usual. Netted one on my first sweep, none on later sweeps.
- aug 16 Evening cool + clear. Few feeding by spruces but some out over log pond.
- aug 17 Disappeared this morning about 5:20 flying in remarkably straight lines, without swerving, towards the forest to the east.

Megascops volans

aug. 26 In our maple glade on Raccoon Creek (4 mi. N. Willow Creek) these started flying at 6:40 under the trees and also M. californicus. Cogswell shot at 1 which promptly landed on a tree trunk, then flew off. A few minutes later he shot at another with a 16 ga. half-load. This one too landed on a tree trunk where he shot it.

Myotis californicus

- Aug. 13 One small bat, possibly this species, flew over camp about 10 minutes before the yumarensis arrived.
- Aug 26. at Coyote Peak a very small bat was foraging at edge of mixed fir wood quite early (about 6:50 p.m.)
In our glade 4 mi. N Willow Creek we netted 4 between 6:45 and 7:15 p.m.
- Aug 30 One very red-orange individual appeared in the maple grove of our camp at 'Crown Creek' at 6:15 p.m. Shot at him with 16 ga. half-load, whereupon he circled confusedly and landed on a branch (hanging by feet) ^{30 ft up}. Shot again with half-load without disturbing him. Shot again with .38 amp without disturbing him. Shock him down by throwing rocks. He fell directly but was alive enough to bite + squeak. A half hour later another bat (probably calif. also) circled up and landed when shot at by 12 ga. full load followed by .38 amp, shot him down with another 12 ga. load but haven't been able to find him. May have landed in stream. M. volans has done the same confused landing when shot at in the glade.

Eptesicus fuscus

Aug. 16 Found 6 in 1" spaces between the timbers of the north end of the Mod River Bridge 4 mi. N of Arcata, and 4 at the south end. Two more at the north end couldn't be reached. All were torpid despite the rumble of trucks overhead. All had droppings under their cracks. Usually 2 or more in a crack. Of the 6 skinned so far, 5 are ♀.

Aug. 17 The other 4 are females also.

Aug. 19 Found 5 in a single crack under north end of Mod River Bridge at 6:30 a.m. They were slightly torpid but not as much so as the other day. 3 escaped.

Aug. 29 Many of these appeared early both last night and tonight over Willow Creek (6:45 and 6:55 p.m.), even earlier than M. californicus. Flew at about 100 ft. altitude at first but soon came lower. Murray + I shot 5.

Lepus

aug 29 Shot 1 at 8:15 p.m. along road near peach orchard of Patterson Ranch, 2 mi N Willow Creek, 6000 ft. Corn field on other side of road. Cogswell & Sullivan saw 2 brush rabbits at same place this afternoon (collected one.)

Citellus beecheyi

- aug 21 Shot 1 of several seen on prairie near School House Peak.
Almost all seen were large ones, but one about half grown.
Also saw one Friday along the road to French Camp in
Redwood-bush at about 500 ft. on the climb above Orick.
- aug 29 Saw 2 along road between Willow Creek and
Hoopa.
- aug 30 Saw 1 along road through madrone-oak about
midway between Patterson Ranch Gate and Coon Creek,
probably about 600 ft.

Entomias townsendi

- Aug 11 Several line along the road southeast of camp and make themselves known by chirping. So far they have stayed in very thick tangles and I have not seen them, but Miller says they have not been shy and could be squeaked out into the open.
- Aug 13. Shot two in thimbleberry - wild cucumber tangle. One may have been feeding on one of these plants.
- Aug. 17 Several seen along old county road in brush near Kane Ranch, east of Big Laguna, 450 ft
- Aug 29 3 mi. N. Willow Creek, 600 ft. Heard one in morning and late afternoon on ~~brushy~~^{wooded} north slope near camp (maple - dogwood - oak - fir - madrone).

Sciurus douglasii

aug 26 French Camp, 3100 ft. Picked up dead on road 200 yds east
of camp a young red squirrel, eyes not open, 42 g.,
175 x 65, several punctures + contusions in skin.

Reithrodontomys

Aug 10 Caught 1 in grass-potentilla meadow east of ^{lagoon} ~~bay~~ near Zapena
and Loxys vagrans.



Peromyscus maniculatus

- Aug. 10 Has been the most abundant mammal so far but has not been caught in great numbers. Ubiquitous, however, from spruce-fir grove to Sikeus marsh.
- Aug 12 Most caught so far have been immatures, some probably ~~out of the nest less~~ weaned less than a week.
- Aug 14 Have caught 3 around woodrat nests in last few days.
- Aug 20 In 50 traps at French Camp, 3100 ft; caught 12 overnight. ~~at least~~ 6 of them between 7:30 and 9:30 in the first 10 traps of the line. No really young ones. One late preg. ♀. Some were caught in pure Douglas fir, some in grass-bracken, most along seep above spring. Also at holes poked into mole tunnels in Doug fir.
- Aug 21 5 more in 50 traps. One of them quite small + grey. at 7:30 p.m. (Myotis yumanensis time) one Pero emerged from smooth round hole in bare stony slope on edge of camp and ran across road. He had only $\frac{1}{2}$ inch of tail - probably one Gullhorn released from traps.
- Aug 26 Peromyscus is very abundant here in the French Camp region. Lives in all habitats to the extent of about 10-20% catch the first night. Very few on subsequent nights. Not many really young ones. My impression is that these are paler than the Big Laguna specimens.



Meotoma fuscipes

Aug. 12 Set around 2 stick houses east of camp, 3 traps around one and 4 the other. Caught a lactating adult and large young ♀ at one house and none at other but one trap sprung the card other holding Peromyscus.

Dr. Miller says he has heard the Meotoma rattling in the bush when he imitates screech owl.

Aug 13 a third one today at same nest, this one considerably smaller (and younger?) than the other two. Skunk seems to have set off one of the Schuyler's at another woodrat nest during the afternoon.

Aug 14 One young one caught last night before 9 p.m. Another large one seemed disturbed by the struggles of the one trapped by one foot and moved away reluctantly when I approached with flashlight.

Aug 16 Jack-lighting at 8-9 along road east of camp heard several. After much crashing through brush I sat quietly by one nest and a woodrat came within a few feet of me about 2 minutes later. They are so innocent and guileless I don't see how they survive. Also saw one in a nest in attic of abandoned house near south shore of Big Lagoon.

Aug 18 Went with Murray to 2 small clumps of small (10") redwoods with woodrat nests in them, the nests made primarily of redwood twigs, one of the nests entirely off the ground in a redwood tree. One Meotoma fuscipes caught in Schuyler in this nest and a Spilogale nearby at another nest. There seems to be a close association between these two.

Neotoma fuscipes (cont.)

- aug 18 at 4 p.m. went to abandoned house south of lagoon. Large nest of shingles & sticks in attic. Tore it apart and a few minutes later shot a woodrat nearby. It was dusky footed rather than bushy tailed as I had hoped.
- aug 20 One caught about 9:40 p.m. in bush above spring ~~to~~ or nest nearby (French camp, 3100 ft.)
- aug 21 Shot 1 of 2 seen by jacklight near spring at French camp about 9:15 p.m.

Neotoma cinerea

- Aug. 17 Visitor to camp this morning remarked that the only animal that he noted missing from our collection was a rat about the size of *Neotoma pyssipes* but with a tail like a chipmunk. He says he has seen them in abandoned cabins between here and Cronell.
- Aug. 28 Mr. Patterson, owner of ranch near Willow Creek, says he has seen these ~~near~~ his summer pasture which is at about 6000 ft., reached by pack trail east of Horse Lute (2 or 3 miles north of here)

Clethrionomys

aug 21

Caught 1 in small pile of moss-covered rocks in
pure, clean floor, Doug fir. Within 5 feet caught Peromyscus
maniculatus and Sorex sp.



Phenacomys longicaudus

Aug 23 At noon climbed to nest 50 feet up large Doug fir at French Camp. Nest had many droppings in it and a couple of balls of shredded needles. Scared out one preg. female which fell with a thump and was captured by Cogswell. Have seen no other nests.

Microtus oregoni

any29 3 mi. N. Willow Creek, 700 ft. Have caught ~~two~~
under logs near stream in a narrow ~~valley~~ canyon
growing to maple-oak-fir-tan oak-fern. Definitely
in forest, nest.

Microtus californicus

Aug. 26 Saw no signs of Microtus and caught none in what looked like good Microtus meadow (see Zapus) on south slope of Coyote Peak. Only one we have encountered ^(French Camp region) here, was in a moist sedge-filled seep out in the prairie. Must be scarce this year.

Zapus trinitatus

- Aug 9 - Caught 5 overnight in grassy - marsh. Only other mammal caught there was Sorex vagrans, 3 were males, dead, and 2 females by tail, alive but cold & numb. They had not become fully active when killed about 6 hours later. Males were fat, one of the females had placental scars plus vaginal plug and fluid-filled uterine - hence two litters per season? Murray says he found a nest and litter of furred young under a board or log.
- Aug. 10 Was surprised to catch Zapus in the thick mossy spruce - fern grove. They were in or near sedge in each case. One was a non-pregnant female with thick vagina.
- Aug. 11 Dr. Miller found a young line Zapus on the road not more than a foot from where he first saw and chased a garter snake. The snake was probably carrying it.
- Aug 12 More fat yet. A smallish one today had 6-mm. testes
- Aug 13 Caught Zapus in thick big redwood forests along stream.
- Aug 14 One in thick big redwoods about 100 feet above stream among ferns and bush - no sedge or grass of any sort anywhere around. Saw one in grass - that the dry meadow while jacklighting at 9 p.m.

Zapus pacificus

Aug 26 Caught 2 between 8:55 p.m. and 5:15 a.m. near very small stream across about 50 yards of meadow on the south slope of Coyote Peak, ^{2700 ft.} Trees and bushes nearby ^(10 yards away) although both were caught under tufts of sedge surrounded by grass.

Ursus

Aug 23

Yesterday found about 6 large masses (1-2 qts.) of droppings 1-inch in diameter and composed exclusively of grasshoppers. Some droppings on some of the hills were moist and fresh. All except 1 pile were on tops of rock outcroppings out in the prairie (where grasshoppers are abundant); one was at the foot of a tree in a patch of oaks in the prairie.

Procyon

- Aug. 24 French Camp. Occasional tracks in road. Cogswell saw and shot at 2 near Schoolhouse Peak 2 nights ago and fire warden (Philips) says he frequently sees them near here.
- Aug 25 Killed one along stream on south face of Coyote Peak, 2700 ft. It ran into low fork of a tree where I missed it.

Mustela frenata

Aug 17. Picked up dried tail of messel along old county road
near Kane Ranch, 450 ft.

Spilogale

- Aug 14 Yesterday afternoon strong skunk smell around a Spruce Schugler at woodrat nest east of camp. In a.m. a Spilogale ♀ was neatly caught around neck in pruned Schugler - but very much alive and smelly. Also smelled another skunk around woodrat nest behind camp. Some of the tracks in Scirpus marsh might be Spilogale.
- Aug 18 another ♀ caught at woodrat house in small clump of small redwoods.
- Aug 29 Squashed on highway between Willow Creek and Hoopa, 6 mi. N of Willow Creek

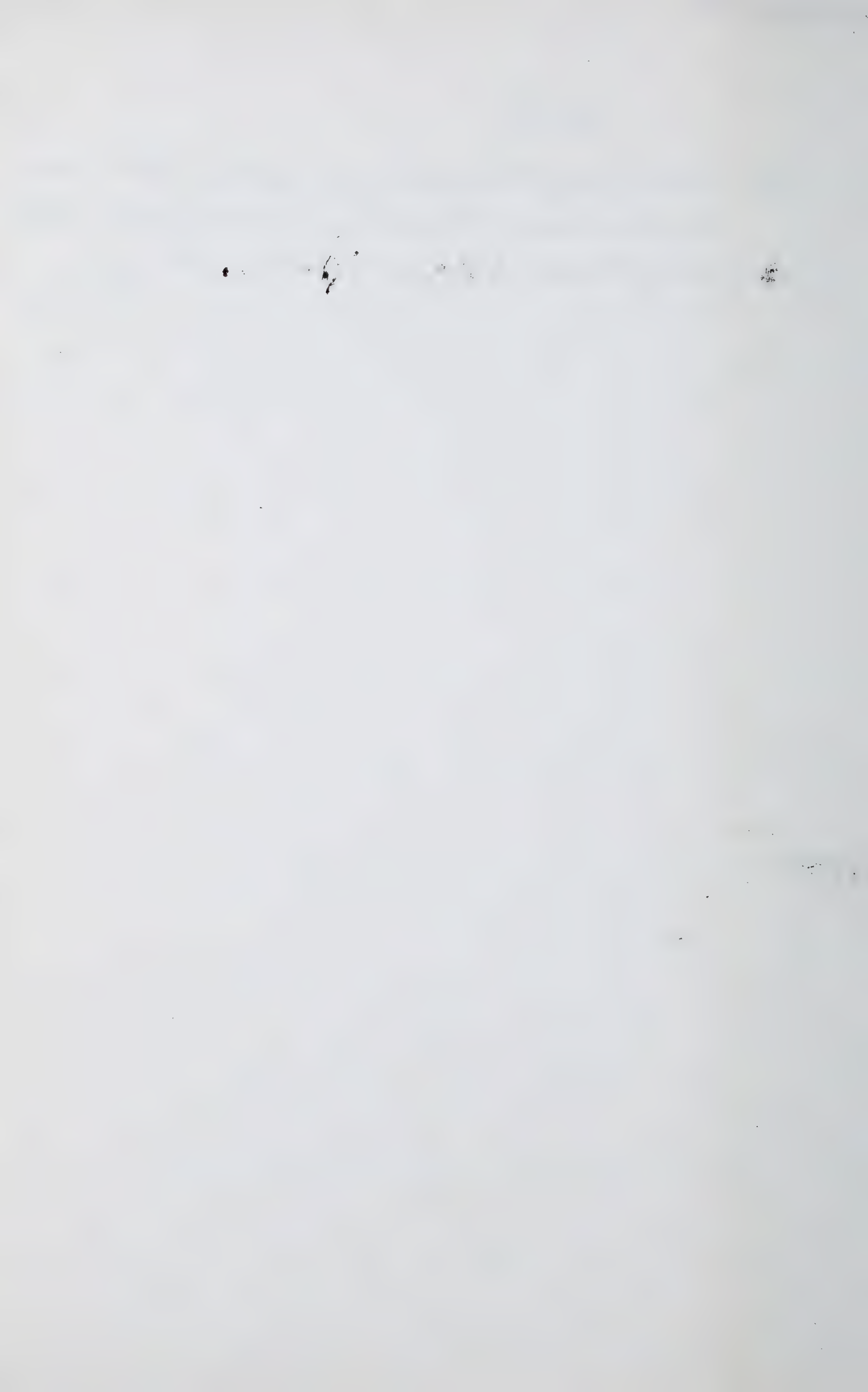
Mephitis mephitis

aug. 13 One seems to have sprung a pruss-baited Schuyler
set around a woodrat nest. When I checked the traps at 4 p.m.
the smell was very strong around this trap, although no
hairs in trap. Judged to be Mephitis because there were
very large skunk tracks along dusty road

aug 14 See Spilogale notes regarding above ↑

Lutra

Aug. 9 Two of the people hereabouts have mentioned allers. One of the boys living in the ranch house is said to have shot one of two in the log pond about 6 months ago.



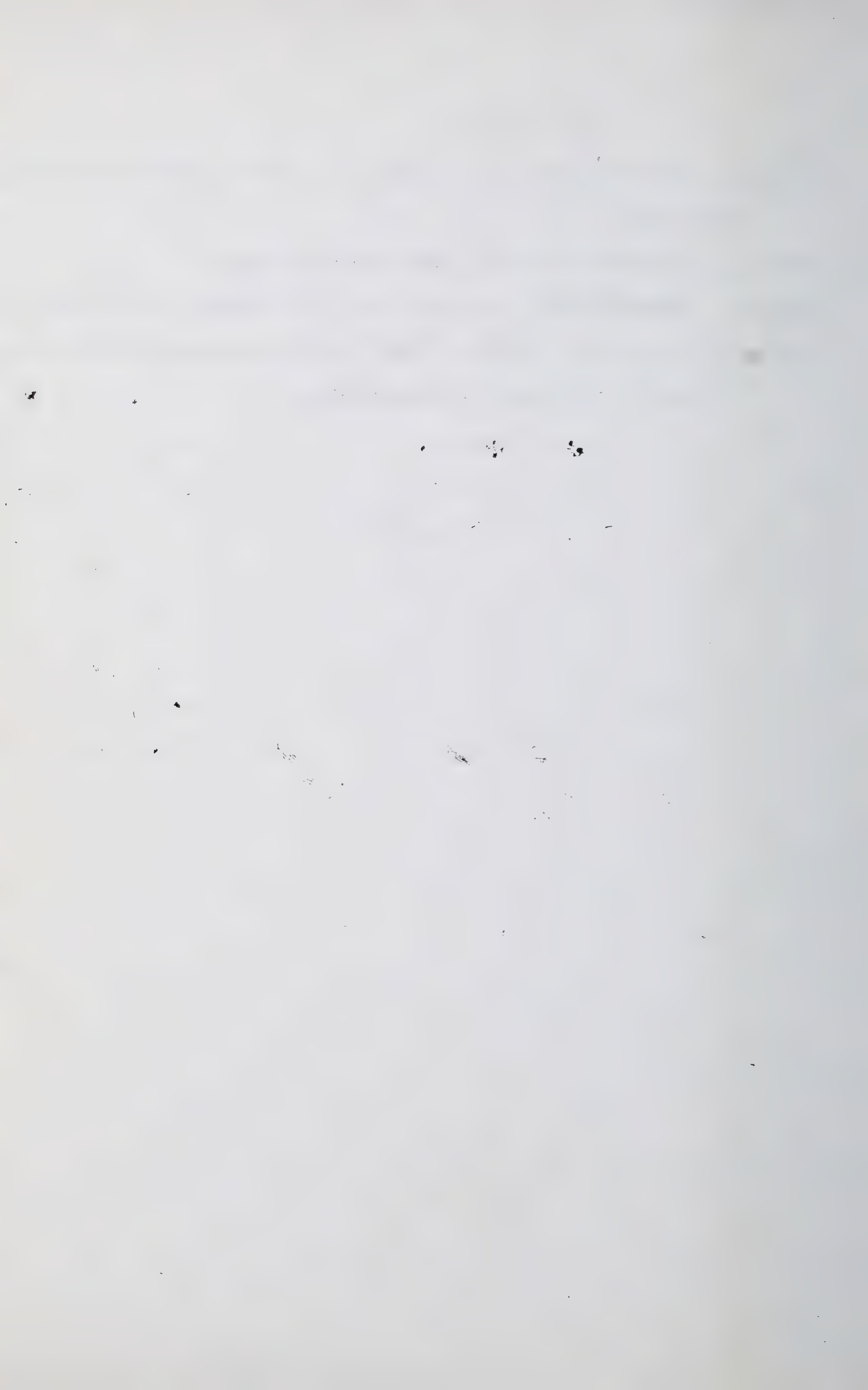
Odocoileus

Aug. 9 Numerous trails and droppings in heavy spruce woods - of
this or elk.

Aug. 11 Deer tracks on dusty road east of camp.

Aug. 17 Many tracks in road near Kane Ranch 400-500 ft.,

Aug. 29 3 mi. N. Wilson Creek, 900 ft., many tracks in
road. also found mandibles.



Pearson, O.P.

Miscellaneous and local including
Marin, Lake, Monterey, Napa,
Shasta, Alameda and Solano counties.

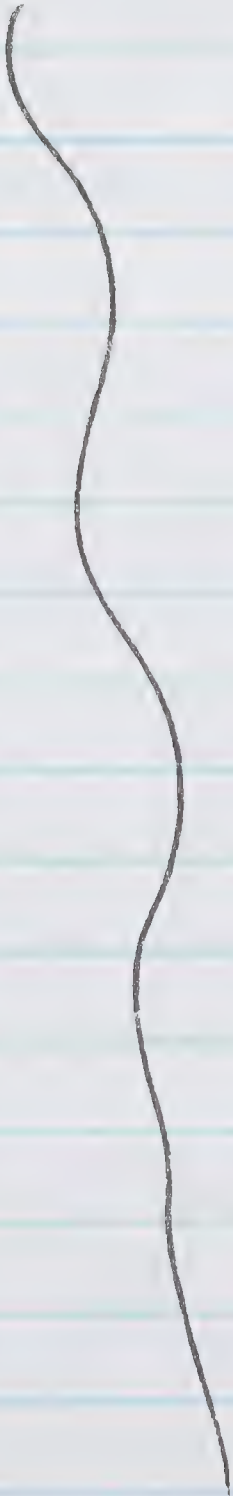
September 1949 - May 1950
catalogue nos. 1792 - 1995
Journal

Catalogue

Lagunitas, Marin Co., Calif.

Sept. 11

1792 ♂ Corynorhinus rafinesquii no skin ~~1~~ 9.2g.
 alone under Marpessa Parhami a.m. Testis very large,
 even by external examination but especially with hair wet. Epid.
 prominent in air membrane. Testis 12x7 mm, white; epidid 2x4
 accessory slightly enlarged, 4 mm. ovary, ~~epidid~~ 3 mm long. no sperm in
 epidid. anestr. no fat. sem. v. 12



1949

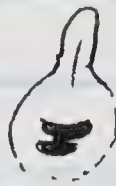
Marconi, E. side
R.C.A. Hotel, Tomales Bay, Marin Co., Calif.

#7

Sept. 11, 1949

1793 ♂ Corynorhinus rafinesquiino skin
8.3g.

In basement of RCA dormitory, above, anake. Epidid. visible in tail membrane but not as prominent as 1792. Testes not visible externally as in 1792. Note lateral projections making partial separation of, some into an anterior + posterior slit. Testes 4mm., epidid. about 1 x 4 mm. Accessories tiny: 2 1/2 mm. across, sem. ves. 1 mm. long. No fat. Skull saved. In section: no reference to spermatogenesis. Much pink interstitial tissue of large cells. One in section R2 - #4. Good skin.



~~Marconi~~ Guerness, Marin Co., Calif.

1794 ♀ Corynorhinus rafinesquii

(Captured 7.7g)

Caught 5 p.m. Sept. 10. Killed 8 p.m. Sept. 11. Banded 49-123086. Mippl. tiny. Uter. small, rt. + left horns same diameter but rt. slightly larger. Both ovaries with numerous small follicles under dissect. scope. No fat. Skull + pelvis + V.G. saved. Vaginal smear: nucleated epithel. cells, some in sheets, no leuco or sperm. Banded as young June 11, 1949.

1795 ♀ Corynorhinus rafinesquii

(Captured 9.1g)

Caught + killed as above. Banded 49-123096, Mippl. tiny (0.5 mm) Vaginal smear with abundant nucleated epithelial cells, no sperm or cornified. Uterus small, 1 mm., both horns same size. Ovaries peach, numerous small + small-med. follicles. No fat. Mippl. with hairs. Projecting from rt. Saved skull, pelvis, V.G., vaginal smear. In stained smear: slate of nucleated epithelial cells, some detritus or leucocytes, no sperm. Banded as young June 11, 1949. 9.4g.

1796 ♀ Corynorhinus rafinesquii

(Captured 8.8g)

Caught + killed as above (1794). Banded 46-26769. Mippl. small, 1.2 mm. long, with a few hairs. Vaginal smear cornified, no sperm. Uterus small and flat, rt. horn 2 mm., slightly stouter ant. - post. than left horn and if anything shorter. B.V. conspic. white-sheathed. Ovaries peach, numerous small follicles - under dissect scope. No fat. Saved skull, pelvis, V.G., vaginal smear + nose. Stained smear: small nucleated epithelial cells, some in sheets. No cornified, no leucocytes, no sperm. Banded July 16, 1947 as immature. With young Aug 1948.

1797 ♀ Corynorhinus rafinesquii

(Captured 8.8g)

Caught + killed as 1794. 1794-1797 all part of breeding colony in Lander's Barn, only 1 ♂ present and few young ♀♀. Reat adult ♀♀. Banded 46-26744, mippl. med. - large, 2 mm. Vaginal smear cornified + nucleated, but no sperm. Uterus small + flat, rt. horn thicker than left, 2 mm. ant. - post. B.V. conspic. white-sheathed. Ovaries white and flat, numerous small + small-med. follicles. Saved skull, pelvis, V.G. + vaginal smear. In stained smear: many nucleated epithelial cells, some curled + irregular but all with nuclei; no leucocytes or sperm. Banded 1947 as lactating female.

1949

13

- 1798 ♂ Corynorhinus rafinesquii 104 x 53 x 11 x 37
 Caught by M. Koford and A. K. Pearson. Alone and active under house, Emergent Valley
School, 2500 ft., Lake Co., Aug. 19. Testes 8 mm. MK 855. Testes, skin,
 skull, and humerus saved.

1 mi NE Sulphur Bank Mine, 1500 ft., Lake Co., Calif.

- 1799 ♂ Corynorhinus rafinesquii
 caught by M. Koford and A. K. Pearson ~~at~~ ^{with 1800} Sulphur Bank Aug. 18. Together and
 active under house. Banded 46-16812, March 9, 1947. Testes, skull,
 humerus saved. In sections: Billions of mitoses, no lumen, no sperm.
 Very little interstitial tissue.

- 1800 ♀ Corynorhinus rafinesquii
 caught as 1799. Looked adult but nipples tiny. Saved V.G., skull,
 humerus.

mouth of Malpas Creek, Monterey Co., Calif.

- 1801 ♂ Corynorhinus rafinesquii
 caught by M. Koford and A. K. Pearson, Aug. 26, mouth of Malpas Creek,
 Monterey Co. In attic with numerous females, adult & immature.
 Pelage looks adult. Testes small, 6 mm. Testes, skull, humerus
 saved. In sections: tubules small, no lumen. No sperm. A few mitoses.
 much interstitial tissue.

- 1802 ♂ Corynorhinus rafinesquii
 caught by M. Koford and A. K. Pearson, Aug. 18, in breeding colony at
 Old Bale Mill, 3 mi. NW St. Helena, Napa Co. Testes small.
 Testes, skull, & humerus saved.

- 1803 ♂ Corynorhinus rafinesquii 102 x 51 x 10 x 34
 Caught by M. Koford and A. K. Pearson, Aug. 25, in cave on Fremont
 Peak, 2900 ft., Monterey Co. active (flew) but still cold to touch when
 caught. Testes 10 mm. MK 856. Testes, skin, skull saved. In sections: tight
 clumps of sperm in part of epidid, possibly dead, certainly last year's because none in seminif.
 tubules. Billions of mitoses, no lumens. Not much interstitial tissue.

- 1804 ♀ Corynorhinus rafinesquii 104 x 53 x 11 x 36
 Caught as 1803 but trapped in mine tunnel. Nipples medium.
 MK 857. Saved V.G., skin, skull.

1100 ft.,
active Miner, Napa Co.

- 1805 ♀ Corynorhinus rafinesquii
 In larger keel-out tunnel with at least 2 others (1806) and 1 myotis.
 awake. Banded C-161780. Nipples medium, 1 mm. Vt. flat, st. horn bigger
 1 1/2 mm; BV. conspic. white-sheathed. slight amt. of fat. Vaginal smear:
 nucleated epithel, some in sheets, no cornified, no leuko, no sperm
 nuclei dark blue-black

Banded adult
 April 28; with young
 May 29; present June 5 and
 young still present;
 Jawsant June 30 (or not
 caught) but young
 still present.
 caught Sept. 24
 banded Sept 25 8.9 g.

1949

- 1806 ♂ *Corynorhinus rafinesquii* (capture 1 day) 7.0g.
 Caught as 1805, ^{anake} not banded, Testes + epidid-oluvous externally.
 Testis 9 x 5.5, Epidid 4 x 2.5. Many sperm in elated smear.
 Accessories large, 6 mm. across, sem. ves. 3 mm.
 anterior lobes (sem. ves.) are clear, hyaline-like,
 other lobes are ^{creamy} white-opaque.
 No fat. Anus as in 1806.



- 1807 ♂ *Corynorhinus rafinesquii* (capture 1 day) 8.3g.
 close in tunnel (different tunnel than 1805 + 1806. awake.
 Anus as in 1793. Testis 12.5 x 8, Epidid 4 1/2 x 2. No sperm
 in epidid. smear. accessories medium, not as long as 1806,
 5 1/2 mm. across, sem. ves 3 mm., other lobes not creamy
 white opaque as in 1806. No fat.

- 800 ft.
Cetna Springs, Inyo Co., Calif
Sept 24

- 1808 ♂ *Corynorhinus rafinesquii* (capture 1 day) 7.4g.
 In attic awake with 1809, 1810, 1811, and 4 other ♀♀. Caught
 Sept 24, killed Sept 25. Testes not as oluvous as 1806 + 1807.
 Anus same. Banded 49-123027. Testes 6 x 4 mm, Epidid 3 1/2 x 2.
 Accessories tiny, 3 mm. across, sem. ves 2 1/2 mm. long.
 No fat. Banded as young May 29, present June 5 and June 30.

- 1809 ♀ *Corynorhinus rafinesquii* (capture 1 day) 7.8g.
 Caught as 1808. Banded 49-123054. Mjpb tiny, about .3 mm.
 Ovaries can be seen easily through lateral abdominal wall!
 Ovaries white, (not peach), many small + med. follicles. Sterna
 rt. horn longer than left, about 1.1 mm diam. B.V. not
 white-sheathed. No fat. Vaginal smear: many nucleated epithel, none
 curled or irrag, many sheets of them, nuclei pink-lavender, a few leuko, no
 sperm or cornified. Banded as young June 5 (born since May 29. Present June 30)

- 1810 ♀ *Corynorhinus rafinesquii* (capture 1 day) 8.1g.
 Caught as 1808. Banded 49-123016, Mjpb small-med. 1.1 mm.
 Rt. horn thicker than left, 1 1/2 mm, B.V. thick sheathed - ovaries
 faintly peach, small follicles. No fat. Vaginal smear: many nucleated epithel.
 some in sheets, some curled, some irrag, nuclei dark purple, no sperm, cornified, or leuko.
 Aug. May 29 + young June 5, young still present June 30 but not Sept 24.

- 1811 ♀ *Corynorhinus rafinesquii* (capture 1 day) 7.8g.
 Caught as 1808. Banded 49-123020 - Mjpb tiny, .3 mm.,
 skin around it purple. Vt. 1 mm, both horns same. B.V. not
 white sheathed. Ovaries peach, small-med follicles. No fat.
 Vaginal smear: many nucleated epithel, some in sheets, not curled or
 angular, no cornified, no leuko, no sperm. young, banded May 29, present June 5
 and June 30
 nuclei pink-lavender

O. P. PEARSON

Pit River, 3000 ft., 11.5 mi NE of Burney, Shasta Co., Calif.

(skipped 1812-1814)

October 5, 1949

- 1815 ♀ Corynorhinus rafinesquii
 caught Oct. 4, 3 p.m. in chalk tunnel. Torpid. 1816 ♂ in same tunnel.
 Nipples small-med. Rt. horn larger than left. No poorly formed external b.
 Some fat. Vaginal smear: many sperm, abundant nucleated epithelial
 many of them curled and irregular but most smooth with pink-lavender
 nucleus. No cornified, no leuko. 1817 in embedding

- 1816 ♂ Corynorhinus rafinesquii
 caught as 1815. Awake. Testes 6 m. Epidid 6 x 3 m. Bulbous of sperm
 in epidid. smear, accessories large, 8 m. across. Sem. ves. 5 m
 long. Posterior and medial lobes of prostate creamy white. No fat.
 Seminiferous tubules exhausted, single layer of Sertoli cells, no interstices, a few sperm left in many
 tubules. Very little interstitial tissue. Many sperm in epidid.

Cassel, 3100 ft., Shasta Co., Calif.

- 1817 ♀ Corynorhinus rafinesquii
 caught in old house, 7:15 p.m. Torpid. Nipples medium. Smear milky.
 Very fat under skin and in abdominal cavity. Uteri pinkish, rt.
 horn larger. In smear: abundant NE, mostly smooth-edged with
 pink-lavender nuclei. Some leuko, no sperm, no cornified.

- 1818 ♀ Corynorhinus rafinesquii
 caught as 1817 but in separate room. Torpid. Nipples small. Very fat.
 In smear: NE with smooth edges and pink-lavender nuclei;
 no sperm, no leuko, no cornified.

Subway Sewer, 4300 ft., Shasta Co., Calif.October 5

- 1819 ♀ Corynorhinus rafinesquii
 alone, torpid, 10 a.m. No other Corys present. Nipples tiny. Very fat.
 Uteri smallish compared with 1815-1818, rt. horn larger.
 Vaginal smear: many sperm, N.E. mostly curled and even with
 dark nuclei. No cornified. No leuko. possibly switched with
1818 in embedding

Carmel, Monterey Co., Calif.Oct. 7

- 1820 ♂ Sorex ornatus ornatus 109 x 39 x 13 x 8
 sent in by Jonathan Wilkins, caught by cat Oct. 5 in Monterey Carmel,
 Monterey Co., Calif. Testes 4 m.

1949

Prunera, Marin Co., CalifOct. 11, 1949

- 1821 ♂ Corynorhinus rafinesquii (capture 1 day) 7.6 g.
 above Indendi's barn Oct. 10. Banded 49-123101.
 no fat. accessory smallish, $3\frac{1}{2}$ mm. across, lateral + medial prostates creamwhite,
 sem. ves. more clear. testis 6 mm., epidid. $1\frac{1}{2} \times 3$. a few sperm in epidid. smear.

1 mi. SE Prunera, Marin Co., Calif
Oct. 11, 1949

- 1822 ♀ Corynorhinus rafinesquii (capture 1 day) 8.6 g.
 In Golden's barn with other females 1823-1826. nipple tiny, 0.4 mm.
 Banded 49-123098. Uterus horn 1 mm. ant. post., BV not white-sheathed,
 no fat. In smear: NE some smooth with pale nuclei, some irreg. with dark nuclei;
 some lunks; no cornified, no sperm.
- 1823 ♀ Corynorhinus rafinesquii (capture 1 day) 8.9 g.
 as 1822. Nipple tiny, 0.2 mm. Banded 49-123035
 Uterus 1 mm. ant. post. BV not white-sheathed. Slight ant. fat.
 In smear: NE mostly with dark nuclei, some pale; no cornified; no sperm;
 no lunks.
- 1824 ♀ Corynorhinus rafinesquii (capture 1 day) 7.8 g.
 as 1822. Nipple tiny, 0.2 mm. Banded 49-123162.
 Uterus 1 mm. ant. post. BV not white-sheathed. No fat. In smear: some
 smooth NE with pale nuclei, some rough + dark; a few lunks; no sperm,
 no cornified.
- 1825 ♀ Corynorhinus rafinesquii (capture 1 day) 8.0 g.
 as 1822. Nipple tiny. 0.3 mm. Uterus 1.1 mm. BV not white-sheathed.
 Rt. ovary apparently cut in half. No fat. In smear: NE smooth-edged with
 pale pink-lavender nuclei; no lunks; no cornified; no sperm.
- 1826 ♀ Corynorhinus rafinesquii (capture 1 day) 8.8 g.
 as 1822. Nipple tiny. Banded 49-123072. Uterus 1 mm., BV not
 white sheathed. Ovaries into follicular. Slight ant. fat.
 none of 1822-1826 had turgid uteri. In smear: NE smooth edged with
 pale pink-lavender nuclei; no lunks, no cornified, no sperm.

Lucerne, 1330 ft Lake Co., Calif

- 1827 ♀ Myotis yumanensis 86 x 39 x 10 x 13 5.4 g.
 caught by D. Bouldin Hotel, Aug. 13, 1949. Skinned by O. P. Oct. 12. Banded
 49-16217

1949

19

P. PEARSON

Redwood Canyon, Alameda Co., Calif
Oct. 17, 1949

1828

♀ *Laelima cinerea cinerea*

141 x 59 x 13 x 19 25.0g

caught by Leo Miller in pear tree Oct. 16, 1949. Thought it was bird nest. when held by scruff of neck it scratched side of neck rapidly (like a dog) with back right foot. Much fat. Uterine horns short, 2 mm; same size, not enlarged. Ovaries small.

Reed Mine, 1750 ft., 1 mi. NE Lake - Wapiti - Yolo Co. Jct.,
Yolo Co., Calif. Oct 19, 1949

1829

♂ *Corynorhinus rafinesquii*

7.7g.

In upper shaft along road. ♂♂ and ♀♀ present [see below], all torpid. Epidid. conspicuous in tail membrane. Accessories large, 6 mm. across. Test. + epid. pretestes creamy-opaque. Testis 3 x 5; epidid 3 x 6. Billions of sperm in smear. Slight amt. fat.

1830

♂ *Corynorhinus rafinesquii*

7.7g.

caught as 1829. Epidid. conspic. in tail. accessories large, 7 mm. across. Testis 7 mm; Epidid 4 x 6. No fat. Billions of sperm in epidid. smear.

1831

♂ *Corynorhinus rafinesquii*

8.1g.

caught as 1829. Epidid conspic. accessories large, 7 mm. across. Testis 8 x 5.5; epidid 6 x 3. Billions of sperm in epidid. smear. no fat.

1832

♀ *Corynorhinus rafinesquii*

8.7g.

caught as 1829. Mypk long 0.4 mm. Rt. horn thicker than left, 1.5 mm ant.-post., BV not white sheathed. Slight amt. fat; more than in 1829 ♂, 1830 ♂, or 1831 ♂. No large follicles seen under dissect. scope.

1833

♀ *Corynorhinus rafinesquii* (1 mm)

9.5g.

caught as 1829. Mypk small. Differs from last in larger size, skin around mypk pale, and trace of a breast. Much fat. Rt. horn uterine 1.2 mm. BV white sheathed but not conspicuously so because uterus is pale.

1834

♀ *Corynorhinus rafinesquii*

8.8g.

caught as 1829. Mypk small, 1 mm; skin around it rather pale. Considerable fat but less than 1833. Uterus 1.5 mm. B.V. white-sheathed but not conspic because uterus is pale.

1949

Manhattan Mine, 2000 ft;
2 mi. NW Knopville, Napa Co., Calif.

Oct. 19

- 1835 ♂ Corynorhinus rafinesquiei ^{torpid} 8.7 g.
 In tunnel in big open part digging x 3 ft from 1836 ♀. Epidid very
 conspicuous in tail membrane. No fat. accessories visible
 thru abdominal wall, large, 8 mm across. Testis 9 x 6; epidid
 4 x 7. many sperm in epidid smear.

- 1836 ♀ Corynorhinus rafinesquiei ^{torpid} 8.9 g.
 caught as 1835, nipple medium, 1.2 mm; same fat.
 Uterus pink, 2 mm. ant.-post., BV conspic. white-sheathed [artery]
 many sperm in vaginal smear.

Knopville, 1262', Napa Co., Calif.

~~1837~~

Oct. 19

- 1837 ♂ Corynorhinus rafinesquiei 7.6 g.
 In tunnel along road with 4 females. all torpid. Females were
 as follows: 1 medium nipple, 2 tiny, 1 small. These ♀♀ were
 released without banding. Epidid. conspic. in tail and testes
 also conspicuous. no fat. [correlate fat, testes, & accessories]
 accessories large, 7 mm. Testis ~~6 x 4~~ 10 x 6 mm; epidid
 6 x 3. Bilhous of sperm in epidid

~~1838~~ Reed Mine, 1750 ft, 1 mi. NE Lake-Napa-Yolo Co. jct.,

~~1838~~ Yolo Co., Calif. Oct. 19

- 1838 ♂ Corynorhinus rafinesquiei 7.1 g. (captured 1 day)
 alone in lower tunnel, epidid. conspic. in tail and testes fairly so.
 no fat. accessories large, 8 mm. Testis 7 x 5; epidid 6 x 3.5. Many sperm
 in epidid. In sections: Practically no interstitial tissue. forming
tubules with many sperm but no young elements; i.e. totally
shot but all sperm not gone yet.

Manhattan Mine, 2000 ft, 2 mi. NW Knopville, Napa Co.

Oct. 19

- 1839 ♀ Corynorhinus rafinesquiei 9.8 g. (captured 1 day)
 Nipple medium, 2 mm. Caught with other ♀♀ in tunnel on south-facing slope.
 many sperm in vaginal smear. Much fat. Uterus 2 mm, artery white-
 sheathed.

- 1840 ♀ Corynorhinus rafinesquii 8.7g (captive 1 day)
Caught as 1839. Nipple medium, 1.2 mm. Vaginal smear with sperm.
Very little fat. Uterus 1.6 mm, artery white-sheathed.
- 1841 ♀ Corynorhinus rafinesquii 7.1g. (captive 1 day)
Caught as 1839. A few sperm in smear (maybe contamination). Nipple tiny,
0.6 mm, surrounding skin purple. No fat. Uterus 1.3 mm; artery not
white-sheathed.
- 1842 ♀ Corynorhinus rafinesquii 8.7g. (captive 1 day)
Caught as 1839. Nipple small, 0.8 mm. Sperm in vaginal smear.
Considerable fat. Uterus 1.7 mm, artery conspic. white-sheathed.
- 1843 ♀ Corynorhinus rafinesquii
Caught as 1839. Died before dissection. Nipple tiny. Fat. Artery faintly
white-sheathed, uterus very pale. Sperm in vaginal smear.
- 1844 ♀ Corynorhinus rafinesquii
Caught as 1839. Died before dissection. Nipple medium. Slight
ant. fat. Uterus faintly white-sheathed. No sperm seen in
vaginal smear.
- 1845 ♀ Corynorhinus rafinesquii
Caught as 1839. Killed Oct. 21. Nipple tiny, 0.3 mm, no sperm
seen in vaginal smear. Some fat. Artery not white-sheathed.
- 1846 ♀ Corynorhinus rafinesquii
Caught as 1839. Killed Oct. 21. Nipple medium-large, 1.3 mm,
a few sperm in vaginal smear. Slight ant. fat. Artery
white-sheathed.

4300 ft.

Parrish Cane, Shasta Co., Calif.

Oct. 22, 1949

- 1847 ♀ Corynorhinus rafinesquii on Oct. 19.
Caught by Anita and many other ♀♀ Present, Forked Barred 42-162259
Nipple medium-large 1.6 mm. Many sperm in vaginal smear.
Uterus 1.7 mm, artery conspic. white-sheathed. much fat.

1949

Becker Ranch, [Shasta Co.]

Oct. 22, 1949

- 1848 ♂ Corynorhinus rafinesquii
 caught by Anita + Mary Oct. 20, awake in shallow cage. Epidid not
 conspicuous in tail membrane. No fat. Accessories small,
 3.5 mm. across. Testis 5 mm., epidid 3x1. A few sperm in
 epidid smear. See sections: good sections of epidid. but no sperm
 in them. Seminif. tubules faint, a few 1st spermatocytes seen but no mitoses, no sperm.
 many interstitial cells but not large.

4300 ft.

Subway Cave, Shasta Co., Calif.

Oct-22

- 1849 ♂ Corynorhinus rafinesquii
 caught by Anita + Mary Oct. 19. no others present. ~~was~~ was not seen on
 earlier visit Oct. 19 so may have just arrived. Epidid conspic.
 in tail membrane. Banded 42-162 374. Much fat. Testis
 accessories large, 2 1/2 mm. across. Testis 4x3, somewhat fleshy
 and slightly purplish, epidid 3x6. Many sperm in epidid smear.
 In sections: tubules small, no sperm, only 1 mitosis seen; little interstitial tissue;

4300 ft.

Ice Cave, Shasta Co., Calif.

- 1850 ♀ Corynorhinus rafinesquii Oct. 19. Killed Oct. 22.
 caught by Anita + Mary, 1 other ♀ present. Nipple tiny 0.2 mm;
 sperm in vaginal smear. Much fat. Rt. horn larger than
 left, 1.5 mm., artery not white-sheathed. Torpid

Angwin, Napa Co., Calif.

- 1851 ♀ Corynorhinus rafinesquii 13.2 gr.
 caught Nov. 3rd in old winery. Torpid. Caught by Anita + Mary.
 No other bats in same building. Nipple medium - 1.2 mm
 long. Sperm in vaginal smear. Uterine artery thick-walled.
 Right horn 1.8 mm. Much fat (2.7 g)

- 1852 ♂ Corynorhinus rafinesquii (optimal day) 8.7 g.
 caught in ~~the~~ other baty. at Angwin. awake. Epidid. conspicuous in
 tail membrane. Accessories 7 mm; testis 4.5 mm; epidid 6 mm. many sperm
 in epidid smear. Nov. 3rd. In sections: tubules, resting; no mitoses, no sperm.
 Considerable interstitial tissue. Ants different from 1854

1100 ft.

Aetna Mines, Napa Co., Calif.

- 1853 ♂ Corynorhinus rafinesquii 8.2
 caught Nov 3rd, Aetna Mines. C. 161791 band. In tunnel with
 2 other males (unbanded). All awake at ^{10:44} ~~noon~~. Epidididymis
 visible in tail membrane but not conspicuous. Considerable
 fat. Accessories small, 4 mm across. Testis 4.5 mm.
 Epidid 4.5 mm long. A few sperm in epidid smear. In section
 sperm in some tubules, 1 mitosis seen, some interstitial tissue.

D. P. PEARSON

1949

- 1854 ♂ Corynorhinus rafinesquii (capture 1 day) 7.5 g.
 awake in tunnel with 1853 + 1855. Epidid. conspicuous in tail
 membrane. Accessories large, 9 mm. across. Testis 5 mm.
 Epidid 5 mm. looks same size as testis. no fat. In sections: testis degenerate,
 no mitoses, but some tubules with many sperm. Very little interstitial tissue.
- 1855 ♂ Corynorhinus rafinesquii (capture 1 day) 6.6 g.
 awake in tunnel with 1853-1854. Epidid. conspic. in tail membrane.
 accessories smaller than 1854, 6 mm. Testis 6 mm, epidid. 5 mm.
 many sperm in epidid. smear. In sections: most tubules with sperm,
 no mitoses. Little interstitial tissue.
- 1856 ♂ Corynorhinus rafinesquii (capture 2 days) 7.7 g.
 torpid in tunnel. Epidid. conspic. in tail membrane.
 accessories large, 7 mm. Testis 4.5 mm. Epidid 6 mm. No fat.
- 1857 ♂ Corynorhinus rafinesquii (capture 2 days) 7.5 g.
 torpid in tunnel. Epidid. conspic. in tail membrane. No fat.
 accessories 7 mm. Testis 4.5 mm. Epidid 5 mm.

⁶
~~2.5~~ mi. NW Vallejo, Solano Co., Calif.
 Nov. 16, 1949

- 1858 ♂ Sorex sinuatus skull only. Testis $1\frac{1}{2}$ mm.
- 1859 ♂ " " " "
- 1860 ♂ " " " testes 4 mm
 fleshy.

1861	♂	<u>Sorex sinuatus</u>	testis 1 mm. 110 × 48 × 13 × 8	4.5g.
1862	♀	" "	no emb. 101 × 40 × 12 × 8	3.7g.
1863	♂	" "	fat. testis 2 mm. 105 × 44 × 13 × 8	4.9g.
1864	♂	<u>Sorex sinuatus</u>	fat. testis 2 mm. 112 × 49 × 13 × 8	5.3g.
1865	♂	" "	fat. testis 4 mm, grayish. Penis large. 110 × 44 × 13 × 8	5.9g.
1866	♂	" "	testis 1½ mm. 111 × 47 × 12.5 × 8	4.3g.
1867	♂	" "	testis 1½ mm. 102 × 42 × 13 × 8	4.0g.

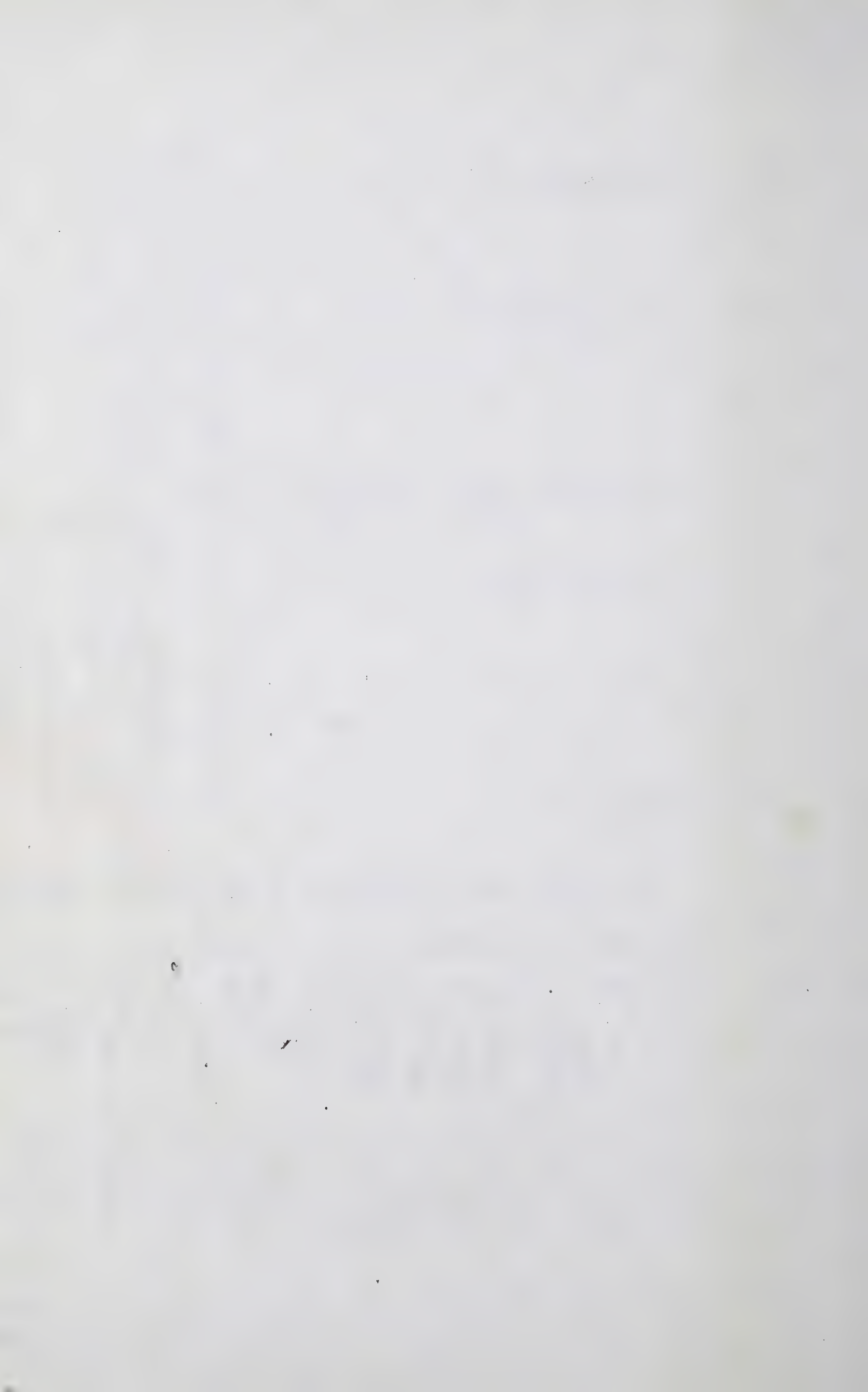
6 mi. NW. Vallejo, Solano Co., Calif.

Nov. 19 (caught by R. L. Rudd and H. Childs)

1868	♀	<u>Sorex sinuatus</u>	no emb. 106 × 45 × 13 × 8	5.2g.
1869	?	" "	105 × 43 × 12 × 8	4.2g.
1870	♂	" "	some fat. testis 1½ mm. 104 × 47 × 13 × 8	4.1g.
1871	♂	" "	some fat 110 × 47 × 14 × 8	4.7g.
1872	♂	" "	much fat 113 × 45 × 13 × 8	5.8g.
1873	♂	<u>Sorex</u>	106 × 44 × 13.5 × 8	4.9g.

Manhattan Mine, 2000 ft., 2 mi. NW Knoxville, Napa Co.

- 1874 ♂ Corynorhinus rafinesquii
Flying bat 4 a.m. in tunnel with ♀ ♀ Nov. 11. Castrated Nov. 11 8 p.m.
Rt. ear nicked. Testis grey, 6 mm., flabby. Epidid. very large. No fat.
Kept on cellophane and fed. Killed Nov. 26. Fat. Accessories medium,
6 mm. Seminal vesicles especially ~~large~~ much larger ~~than~~
in 1877. Epidid. large 6 mm. In section: epidid. packed
with healthy-looking sperm.
- 1875 ♂ Corynorhinus manhattan mine.
Caught Nov. 11. Castrated 8 p.m. Nov. 11. Testis 4½ mm., pale. Ears not nicked.
Epidid. very large. Kept on cellophane + fed. Killed Nov. 28. Very fat. 11.4 g.
Accessories 6 mm., much smaller than 1879 or 1878, seminal vesicles especially
much less inflated. Epidid. large & conspicuous in tail membrane 5 × 3. abundant.
vigorous sperm. This bat had 1.8 g. of easily removable fat, most or all of which
was laid down in 2 weeks of captivity.
- 1876 ♂ Corynorhinus rafinesquii
alone. Torpid in afternoon of Nov. 10. Castrated Nov. 11, 8 p.m. Testis
4½ mm. Epidid. very large. Left ear nicked. Kept on cellophane and fed.
Killed Nov. 28. fat. 8.4g. Accessories medium, 5 mm. Epidid. large 5 × 3, contains
abundant vigorous sperm, prominent in tail membrane.



1949

1877 ♂ Corynorhinus rafinesquii
Torpid in Manhattan Mine from 4 p.m. to 10 p.m. Both ears miked. kept on cells, stops and fed. Control for 1874-1876. Very fat when killed Nov. 26. accessories large, 7 mm. across. Testis 5 mm, greyish lobby, Epidid 8 mm. *Bulbourethral gland in epidid. Seminal tubule tiny + quiescent, considerable interstitial tissue but cells small.*

1878 ♂ Corynorhinus rafinesquii
Manhattan Mine. Control for 1874-1876. Killed Nov. 28. Very fat. 11.0 g. Testis 5 x 2.5, bluish. Epidid. 6 x 3, abundant vigorous sperm. accessories very large, 9 mm., much larger than 1876. The seminal vesicles have considerable fluid in them but don't collapse when cut and squeezed. In sections: tubules inactive; numerous interstitial cells but small.

1879 ♂ Corynorhinus rafinesquii
Manhattan Mine. Control for 1874-1876. Killed Nov. 28. much fat. 9.5 g. accessories medium, 6.5 mm., much larger than 1876, smaller than 1878. Testis 5 x 3, lobby, bluish grey. Epidid 5 x 3, abundant vigorous sperm. In sections: tubules resting, 2 intakes seen, interstitial tissue not conspicuous, cells small; sperm in epidid. 1 1/2 mi. N Rio Vista, 500 ft, Guemesville, Sanoma Co., Calif

Nov. 24

1880 ♂ Corynorhinus rafinesquii intermedius 100 x 49 x 11 x 37 9.5 g.
above the mine tunnel. caught by Baldwin - Robert Smith - Pearson expedition on Nov 23. Epidid. looks small in tail membrane. Testis 3 mm. much fat. Epidid. 4 x 2, slightly larger than testis, rather translucent. no sperm in epidid smear. In sections: tubules small, inactive, no intakes. Interstitial tissue not conspicuous, cells small. no sperm in epidid.

Grizzly Island, Solano Co. Calif.

Nov. 25

1881	?	<u>Sorex sumnensis</u>	3.9 g.
			93 x 43 x 13.5 x 7
1882	♀	" "	no emb. 4.4 g.
			97 x 42 x 13 x 7
1883	♂	" "	Testis 4 mm.
			95 x 40 x 13 x 8 4.4 g.
1884	♂	" "	91 x 40 x 13 x 8 3.3 g.

5 mi. N Morato, salt marsh, San Antonio Creek, Marin Co.

Dec. 6

1885	♂	<u>Sorex</u>	testis 1 mm, caught by M. Vogt
			100 x 43 x 12 x 8 4.2 g.
1886	♂?	"	caught by A.K. Pearson
			93 x 36 x 12 x 7 3.5 g.
1887	♂	"	testis 1 mm. caught by A.K. Pearson
			102 x 40 x 12 x 8 4.4 g.

1949

testis 6 mm.

1888 ♂ *Dipodomys deserti*

351 x 215 x 55 x 18

Californian. From Kunt Schmidt-Milken. Died Dec. 14, 1949, caught Dec. 30, 1947 4 mi. E Stoneys Well Hotel, Death Valley National Monument, Inyo Co., Calif.

Manhattan Mines, 2000 ft., 2 mi. NW Knapville, Inyo Co.

Dec. 201889 ♂ *Corynorhinus rafinesquii*

9.5 g.

Torpid in tunnel. Epidid. looks small in tail membrane. Considerable fat. Testis small, pale, 4 x 2.5 mm. Epidid. small, 3 mm. ±. Accessories tiny, 4 mm. across. Scent gland saved, no white cheese expressible from nose gland. *Inspection: Dec 15/11. Histochem. negative.*

1890 ♂ *Corynorhinus rafinesquii*

8.1 g.

Torpid in tunnel. Epidid. large in tail membrane. Some fat. Testis darkish, 5 mm. Epidid. large, 5 mm. ±. Nose gland saved, no white cheese expressible. Accessories large, 7 mm. *Inspection: no sperm, no testes, some interstitial tissue but all small. Histochem. negative.*

1891 ♂ *Corynorhinus rafinesquii*

10.0 g.

Torpid in tunnel. Epidid. scarcely visible in tail membrane. Much fat. Testis pale, small, 4 mm. Epidid. 4 mm. ±. Possibly a few sperm in epidid. smear. Nose gland saved, no white cheese expressible but slight amt. of clear fluid as in 1889, 1890. Accessories small but larger than 1889, 4 1/2 mm.

1892 ♂ *Corynorhinus rafinesquii*

10.2 g.

Torpid in tunnel. Epidid. scarcely visible in tail membrane. Much fat. Testis pale, small, 4 mm. Epidid. small, 3 mm. ±. Accessories small, 4 mm. *Inspection: epid. fairly thick as if with many sperm. No testes or sperm in tail, interstitial tissue not saved but all small.*

1893 ♀ *Corynorhinus rafinesquii*

10.0 g.

Torpid in tunnel. Nipples small-med. Much fat. Uterus BV white sheathed, rt. horn of uterus 1.9 mm. diam. Fluid from nose gland clear, not cheesy.

1894 ♂ *Corynorhinus rafinesquii*

7.7 g.

torpid in tunnel. Epidid. large in tail membrane. no fat. How could he survive rest of winter? testis purplish, small 4 mm., epidid large, 5 mm. Nose gland preserved, no white cheese expressible from it. Accessories large, 7 mm. across.

1895 ♂ *Corynorhinus rafinesquii*

8.4 g.

torpid in tunnel. Epidid. large in tail membrane. Considerable fat. Testis 5 mm., purplish; epidid 5 mm. ~~testis~~ Accessories 9 mm., large. *Histochem. negative.*



1949-1950

- 1896 ♂ Corynorhinus rafinesquii 7.4 g.
Possibly Varied in tunnel between 6 & 7 a.m. Stomach + intestines empty when killed 11 a.m. Epidid. large in tail membrane. Some fat. Testis 5 mm., epidid. 6 mm. accessories large, 8 mm. nothing saved.
- 1897 ♀ Corynorhinus rafinesquii 9.3 g.
Caught as 1896. Stomach + intestines empty. medium m.p.s. Vagina dry-grey. Considerable fat (more than 1896). Rt. horn uterus 1.9 mm. diam. nothing saved.
- 1898 ♂ Corynorhinus rafinesquii 8.8 g.
caught as 1896. Stomach + intestines empty. Epidid. tiny in tail membrane. Considerable fat. Testis paler than 1896, 4 mm., epidid 3 mm. accessories tiny 3.5 mm. nothing saved.
- 1899 ♂ Dipodomys deserti 301 x [151] x 54 x 19
4 mi. E. Stonepile Wells Hotel. Death Valley National Monument, Inyo Co., Calif
Caught by Schmidt-Melzer, Dec. 31, 1948. Died Dec. 29, 1949
Died Jan. 2, 1950
- 1900 ♂ Dipodomys deserti 352 x 209 x 54 x 17
- 1901 ♀ Dipodomys deserti Died Jan 2, 1950
338 x 197 x 56 x 18

11000 ft.
Aetna Mines, Inyo Co.
Jan. 3, 1950

- 1902 ♀ Corynorhinus rafinesquii (captured 1 day) 9.2 g.
Caught by MK and AK in tunnel above house. 6-6° m.p.s. small, 1 mm. Considerable fat. Uterus vascular, artery with conspicuously white sheath, rt. horn 1.5 mm wide; rt. ovary with vascular spot, some clear + some milky fluid squeezed from oviduct. Sperm in smear.
- 1903 ♂ Corynorhinus rafinesquii 8.5 g.
caught by MK and AK in Danger Keep Out tunnel. 9.8°C at noon. Epidid. conspic. in tail membrane. No fat. Sem. ves. visible through abdomen. accessories large, 7.5 mm. testis purplish grey, 4 mm., epidid. white 5 x 3, no white fluid from oviduct. In section: tubules very small + degenerate, no interstitial tissue. many sperm in epidid.
Manhattan Mines, 2000 ft., Inyo Co.
Jan. 3, 1950
- 1904 ♂ Corynorhinus rafinesquii 9.1 g.
By MK and AK in OPT tunnel. 8 am. Small epidid. 9.1 g. Much fat, no sperm in skin smear. Testis 3½ mm., epidid 4 mm. accessories very small 4 mm, especially slender. Some clear + some milky fluid from oviduct.

inactive but
very aptly. Intestines
& ovaries. no
sperm in epidid.

1949
1950

- 1905 ♂ Corynorhinus rafinesquii 7.6 g.
By AK and MK in OP tunnel. 8:30 p.m. 6.0°C. no fat.
testis 5 mm., epidid. 6 mm. accessories medium, 6 mm. Epidid. large.
Tubules very small; interstitial tissue not conspicuous; many sperm in epidid.

$\frac{1}{2}$ mi. S Arroyo, Madera Co., Calif
Jan. 3, 1950

- 1906 ♂ Corynorhinus rafinesquii 9.2 g.
By AK and MK. 11.6°C in roost. Epidid. large.
no fat. testis 5 mm., purplish. Epidid. 5 mm. Accessories
large, 7 mm. In sections: tubules inactive; interstitial tissue inconspicuous,
many sperm in epidid.

- 1907 ♂ Corynorhinus rafinesquii 7.8 g.
By AK and MK at Marshall's Mines (Cone above Mangrove Hill).
Slight ant. fat. Testis 5 mm. Accessories $6\frac{1}{2}$ mm. Saved
whole shebang in formalin.

Fremont Peak, 2900 ft., Monterey Co., Calif
Jan. 20.

- 1908 ♂ Corynorhinus rafinesquii
torpid in small natural cave at very top of peak. One torpid ♀
present also. Epidid fairly large. no fat. ~~testis~~ Epidid. 4 mm.,
testis 5 mm. accessories 6.5 mm. Caught Jan 19.

- 1909 ♀ Corynorhinus rafinesquii
also in tunnel on north side of Fremont Peak. Torpid.
sperm in vaginal smear. Nipple small but adult-looking
much fat. Uterine artery white-sheathed. Rt. horn about 1.8 mm.
Caught Jan 19, killed Jan 21.

- 1910 ♀ Corynorhinus rafinesquii
caught with 1908. Torpid. Semen expressible. small droplets of blood on
tips of hairs. Fur on shoulders grizzled. Caught Jan 19. Killed Jan 21.
Nipple medium, 1.1 mm. Small ant. fat. Sperm in vaginal smear.
Uterine artery white-sheathed. Rt. horn considerably broader than
left.

- 1911 ♀ Corynorhinus rafinesquii
caught in same mine tunnel on Fremont Peak. Torpid. Volans + Chrysomella
also present. Sperm in vaginal smear. Nipple large. Caught
Jan 19, killed Jan 21. no fat. Uterine artery white-sheathed.

mouth of Malpaiso Creek, Monterey Co., Calif.

1912

Angwin, Yuba Co., Calif.

Feb. 4

1913

caught Feb. 3 by Anita and Bernice Rhiney in Brimstone cave. 1914 also present. Myppl small. Milky fluid expressible from vagina (had been separated from σ since at least 17 hours, probably more than 24. Thousands of sperm in smear. Little fat. Rt. horn larger than left, 1.2 m. B.V. faintly white-streaked but tortuous. Rt. horn quite translucent but not left. Can see forcpa right through horn. No corpus or large follicles seen under dissecting scope. Graafian follicle in left ovary 37×43 ($\times 8.5$). Sperm at tubal-uterine junction.

1914

caught as 1913. Epidid. medium size in tail membrane, left epidid. looks larger. No fat. Testes $5 \times 2 \frac{1}{2}$, purple, fleshy. Left epidid. 5×2 . Rt. testis $5 \times 2 \frac{1}{2}$, rt. epidid. 4×1 , definitely smaller than left; but milbois of motile sperm. Accessories medium-large, 5mm. Dark fecal material in colon -
In sections: many sperm in epidid. Seminif tubules small, inactive, 1 mitosis seen. Some interstitial but cells not large. Uterine thick.

Parrish Cove, Shasta Co., Calif

2 Feb. 11, 1950

1915

1915 ♂ Corynorhinus rafinesquii killed Feb. 12. Eardrid. scarcely visible
in eard membrane. Considerable fat - Testes pale, 4 mm. Eardrid
3½ mm, looks fatty. Accessories tiny, 2 mm. thin. Pelage looked grey.
In sections: no spermat in eardrid, large gonio but no histiocytes. Linn 34.4

1916

1916 ♀ Corynorhinus rafinesquii Killed Feb. 12. Banded 42-162 246
 middle medium. Some fat. Rt. horn toothed, 1.0 mm; larger
 than left. 53 - medium follicle, sperm in ovum. Numerous mitoses in interst.

1917

1917 ♀ Corynorhina see card

1918

1918 ♂ Corynorhinus see card

1919

1919 ♂ Corynorhinus see cond

P. PEARSON

1950

Acton Springs, Napa Co. Calif.Feb. 17, 19501920 ♀ Corynorhinus rafinesquii

Torpor in attic with other ♀♀ 1921, 1922 and 1 ♂. Banded 49-123001
 nipple medium. Caught Feb. 16 noon, killed 6 p.m. Feb. 17, after
 keeping in refrigerator. Uterus quite vascular and ~~slightly~~
 definitely ~~turnd~~ translucent. Not really smaller but
 "fuller", less ~~flat~~ flat than earlier specimens, little fat.
 Uterine artery tortuous but not conspicuously white-sheathed.
 Rt. horn definitely larger. Ovaries: nothing definite seen
 under dissecting scope. Mose gland: a few small colorless droplets
 esp. under perine. Banded May 29 with young (not below)

greatest follicle
 in left ovary; several
 intact. Numerous
 intakes in uterus,
 sperm at tubo-uterine
 junction.

1921 ♀ Corynorhinus

caught and killed as 1920. Banded
 c 168790. Nipple ting, skin rosy. Little fat. Uterus paler
 than 1920; Rt. horn slightly larger than left but not fatter.
 1 mm. diam. thick. Uterine artery not seen. Nothing conspic. seen
 in ovaries under dissecting scope.
 Follicle in rt. ovary; several intact. Sperm in oviduct young (1 yr)
 and cervix, many intakes in uterus

1922 ♀ Corynorhinus rafinesquii

caught & killed as 1920, 1921
 nipple ting. No fat. More vascular than 1921. Both horns
 of uterus same width 0.9 mm and length. Rt. horn with
 translucent band across center, artery not white-sheathed
 and not tortuous. Nothing conspicuous seen in ovaries
 under dissect. scope. Banded 49-123018 Young (1 yr)
 Considerable atretic activity - many collapsed ova in left ovary. Some
 med. antral follicles in both ovaries. Many open at tubo-ut. junction

Reed Mine, 1750 ft., 1 mi NE Lake - Yolo - Napa Co. Junction.Yolo Co., Calif.1923 ♀ Corynorhinus rafinesquii

~~Asleep~~ Awake in tunnel with other ♀♀ (1924). Nipple ting
 slight amt. fat. Uterus large & vascular. Uterine artery
 tortuous. Rt. horn larger, 1.6 mm. Caught Feb 16, 6 P.M.
 Killed Feb. 17, 6 P.M. Graafian follicle in rt. ovary. Many
 open at cervix, tubo-uterine junction. > S2, r. 2.

1924 ♀ Corynorhinus rafinesquii

Awake in tunnel with 1923 (& 4 ♂♂). Nipple med.
 No fat. Uterus not as vascular as 1923. Right horn
 larger than left (1.7 mm). Artery white-sheathed. Nothing
 conspicuous in ovaries. Caught Feb 16, Killed 12 P.M. Feb. 17
 Only med. follics. Many open

Manhattan Mine, 2000 ft., 2 mi NW. Knoxville, Napa Co., Calif.1925 ♀ Corynorhinus rafinesquii

In Catamount tunnel on Feb 17, in A.M. Killed
 12 P.M. Feb. 17. Banded 49-123322. Nipple med. No fat.
 Uterus vascular, slightly translucent. Artery white-sheathed, not
 very tortuous. Rt horn larger - 1.5 mm. Ovaries with no conspicuous
 features. Large follicle S3 - r. 3. in left ovary. Many sperm

1.3 mi. SE Inverness, Marin Co., Calif.
Feb. 20, 1950

1926 ♀ Corynorhinus rafinesquii Caught in attic with 2 other ♀♀.
on Feb. 19, at 1 p.m. Killed Feb. 20, 11 a.m. Banded 41-167916
muzzle large. Slight amt. fat. white cheese in vagina. linear
shows epithelial cells and some sperm. Uterus not swollen, rt. horn
larger 1.5 mm. artery tortuous + white sheathed. ovary under
dissecting scope shows only white + atretic? follicles. Born in 1948
Very large follicle about to rupture S2, r. 2. Ova near ovulating follicle
slightly collapsed. a few sperm seen at tubo-uterine junction

1927 ♀ Corynorhinus rafinesquii as above. (Hanging torpid
down side shoot (same one as another bat last year). Muzzle medium
46-26730. Slight amt. fat. Uterus somewhat grayish, slightly
vascular, not swollen. Pasak's new corpus in left ovary.
artery conspicuous. white-sheathed, somewhat tortuous.
no sperm seen in vaginal smear. [Ham would or has found her.
Banded July 1947 as (imm?)]. Not taken at Inverness since
that date

1928 ♀ Corynorhinus rafinesquii as above. Muzzle medium
Banded 41-167940. No fat. Uterus fairly "full" and
fairly vascular. Rosy patch on rt. ovary. rt. horn uterine
2 mm. artery convoluted and white-sheathed. No sperm seen
in vaginal smear.
Band Aug 10, 1948 as "non-bat" (presumably adult).
With yoz in 1949
Rt. ovary with new corpus S3, uterus quite secretory, SG-R1-H1 ovum in
lower oviduct, about 6 cells. No sperm at tubo-uterine junction

Parrish Cave, Shasta Co., Calif.

1929 ♀ Corynorhinus rafinesquii Caught Feb. 11. Kept in cage on cellar steps with 2 and
killed Feb. 21
muzzle medium. No fat. Ovaries with no conspic. features. Uterus
not swollen, translucent or unusually vascular. artery tortuous and
white-sheathed. Graafian follicle S1, r. 4. Good section
longitudinally thru tubo-uterine junction. Many sperm.
Much detritus in uterus. Spermist even.

Marathon Mines, 2000 ft., 2 mi NW Knoxville, Napa Co., Calif.
Feb. 27

1930 ♂ Corynorhinus rafinesquii Epidid. prominent in tail membrane,
Banded 49-123348. Epidid 2 x 5, testis purple,
flabby, 5 x 3. Bulbiform, no sperm in epidid smear.
Ovaries large, 7 mm. twice thick.

1931 ♀ Corynorhinus rafinesquii Pelage quite grey. Banded 49-123511
muzzle tiny. No sperm seen in vaginal smear. No fat. Both horns
slender, same diam. (0.6 mm) but rt. slightly larger. artery not tortuous
or thick-walled. Nothing conspicuous in ovary under dissecting scope.
Medium follicles. No corpus. Many sperm at cervix in uterus

Left follicle
12 mm
stage extended
Left ovary
S31 r. 2.
? sperm?

P. PEARSON
1956

ovipos found!
Some granulosa cells
as already in
uterus.

1932 ♀ Corynorhinus rafinesquii Banded 49-123528. Nipple
medium. Many sperm in vaginal smear. Some fat. Uterine horn
1.8 mm ant-post. artery white-sheathed but only slightly
tortuous; uterus definitely plumper than winter but not
particularly vascular or translucent. Under dissect. seen
left ovary with peach-pink patch (probably seen corpus
luteum). Nothing seen in rt. ovary. Uterus ante secretory.
New corpus 56 R2. Ovary on slide of rt. Infert. Left ovary ovulated

1933 ♀ Corynorhinus rafinesquii Not banded, Nipple tiny.
Several sperm in vaginal smear. Some fat. Uterus rather slender,
rt. horn slightly larger than left, 1.6 mm. Both horns definitely
plump. Nothing definite in either ovary. Probably a young ♀ in ear-
ly stimulation. Recent ovulation left ov. 52 R1. Not yet in
oviduct. Surrounded by cumulus. Infert. (2nd follicle found)
lots of sperm in oviduct

1934 ♀ Corynorhinus rafinesquii Banded 49-123382
many sperm in vaginal smear. Nipple medium. no fat. artery
tortuous and white-sheathed. Uterus very plump, rt. horn larger
& plumper, looks almost pregnant. Right ovary corpus
(8.4) ca 16-celled horn in uterus 55 R2 12. No sperm at uterine
junction. Uterine glands well developed

1935 ♀ Corynorhinus rafinesquii Unbanded. Nipple small-
medium. 2 sperm seen in vaginal smear. Slight amt. fat.
Uterus quite vascular & plump. Rt. horn larger, 2 mm.
artery tortuous & white-sheathed. Distinct purple-grey-pink
speckles spot on rt. ovary. Nothing on left. This is
the most conspicuous corpus seen so far. Fairly new
corpus, 53 R1-2. 56 R2 5-6 cells in lower end right oviduct. Uterus
quite secretory. cyst with leucocytes near right oviduct. Corpus in right.
No sperm seen.
1.3 mi. SE Limeress, Marin Co., Calif. March 11

1936 ♀ Corynorhinus rafinesquii alone & torpid in Golden's barn.
nipple large. Uterus large, right horn larger than left. Nothing conspicuous
in either ovary (no scope) Dissected by AKP and MK. after fixation uterus looks
swollen. Banded 49-123043.

lost during unbedding

Prisoner's Harbor, Santa Cruz Island,

Santa Barbara Co., Calif.

March 7 [caught by A.H. Miller]

1937 ♀	<u>Reithrodontomys megalotis santacruzae</u>	159 × 86 × 18 × 14 ♀ 11.6 g.
1938 ♂	"	156 × 88 × 18 × 15 ♂ 12.3 g.
1939 ♂	"	161 × 89 × 18.5 × 13 11.6 g.
1940 ♂	"	152 × 85 × 18 × 14 10.9 g.

P. DEARSON

1950

Aetna Springs, 800 ft., Napa Co., Calif.
March 25,

1941 ♀ Corynorhinus rafinesquii

Torpid in ether with 1942. Nipple medium. Slight ant. fat.
 Banded 49-123019. Early pregnant. Rt. horn swollen but no
 measurable bump. Rt. horn 3.5 mm ant. - post. Caught 3 p.m. Killed 11 p.m.
 Corpus luteum fairly solid, in 52. Uterus quite secretory. Sperm in ut at
 tubal end. Also at cervix. 22-cells in blastocyst.

1942 ♀ Corynorhinus rafinesquii

caught as above. Nipple tiny. Banded 49-123062. No fat.
 Right horn larger than left - 1.8 mm. ant. - post. Slightly swollen
 but not as much as 1941. Corpus luteum 53. Blastocyst floating
 in uterus 55 R 2+3. Uterus quite secretory. Fallopian cyst
 52. 1 yr. old. 81 cell blastocyst. No sperm seen.

1943 ♂ Corynorhinus rafinesquii

Aetna Mines. [Swallowing tunnel].
 caught 4 p.m. March 25. Killed 8 AM March 27.
 Epidid large in tail membrane. Testis purple, fleshy, 3x5.
 epidid 2x4. Bilhous of very motile sperm. Accessories large,
 8 mm. across. In sections: sperm in epidid. Testis motile, no sperm seen.

1944 ♂ Myiophobus humingbird
 March 27.

3.2 g.

Brought in by Dr. Stern,

Pope Creek, 3. mi. SE Pope Valley, Napa Co., Calif.
April 9

1945 ♀ Myotis thysanodes

(caught anguin with 3 other thysanodes ♀ and 1 ♀ Cory)
 1 embryo 7 mm C.R. 95 x 42 x 9 x 18

1946 ♀ Corynorhinus rafinesquii

anguin. no other Cory, but 4 thysanodes. Cory torpid. nipple
 medium. Uterus plump, no definite similitude but enlarged.
 51 - much secreted corpus, interstitial tissue lateral. Good shells. 52 - medium follicle. 53 - more
 medium follicle, uterus not glandular as at pre-implantation. 54 - Sperm early implantation
 (antimesometrial) no emb.

1947 ♀ Dipodomys heermanni californicus

294 x 180 x 42 x 16

1948 ♀ Sorex townsendii

lactating, no emb. no scars

120 x 49 x 15 x 8

1949 ♀ Eutamias s. sonomae

shot by H. Childs. no eggs

198 x 96 x 33 x 21

1950 ♀

shot by H. Childs. no embryos

197 x 89 x 34 x 19

P. PEARSON

1950

Winnathan Mine, 2000 ft., 2 mi NW. Knoxville, Napa Co., Calif.

in abn. cave.

April 27

- 1951 ♀ Corynorhinus rafinesquii
 mother or less awake in cave with 13 other ♀♀. Nipples small.
 Preg. in rt. horn, sphere 6 mm., no corpora seen under
 scope. Mother saved.
- 1952 ♀ Corynorhinus rafinesquii
 caught as 1951. Nipples small-medium. Considerable fat. not
 obviously pregnant; rt. horn full of fat, however, no corpora
 seen in either ovary under dissecting scope.
- 1953 ♀ Corynorhinus rafinesquii
 caught as 1951. Nipples small. Preg. rt. horn 9 x 10 mm lumps,
 fetus 8 mm C-R.
- 1954 ♀ Corynorhinus rafinesquii
 caught as 1951. Nipples small. Preg. rt. horn 6 x 5 mm., C-R 2.5 mm
- 1955 ♀ Corynorhinus rafinesquii
 Nipples medium. caught as 1951. Pregnant rt. horn 13 x 11 mm; C-R. 11 mm.
- 1956 ♀ Corynorhinus rafinesquii 109 x 54 x 11 x 38
 Nipples small. Preg. rt. side 14 x 9, C-R 11 mm.
- 1957 ♀ Corynorhinus rafinesquii 103 x 50 x 11 x 38
 caught as 1951. Nipples tiny. Banded 49-123308. Not preg. Uteri
 slender, rt. slightly larger but equally thin, 1 mm. diam. Ovaries
 large, no large follic. or corpora seen under dissect scope.
- 1958 ♀ Corynorhinus rafinesquii 104 x 51 x 10 x 37
 caught as 1951. Nipple med. Preg. rt. horn 13 x 11. Fetus 11 mm C-R
- 1959 ♀ Corynorhinus rafinesquii 102 x 51 x 11 x 38
 caught as 1951. Banded 49-123341. Nipple small. Preg. rt. horn,
 lumps 7 x 7, emb. 6 mm. C-R
- 1960 ♀ Corynorhinus rafinesquii
 caught as 1951. Nipple med. Killed while aborting (breach).
 Fetus 14 mm C-R.

1950

1961 ♀ Corynorhinus rafinesquii 107 x 50 x 11 x 37
 caught as 1951. Nipple medium. Preg. rt. horn 11 x 9; 11 mm C.R.

1962 ♀ Corynorhinus rafinesquii
 Caught as 1951. Nipple medium. Preg. rt. horn 11 x 9 mm.
 Fetus CR 7 mm

1964 ♀ Corynorhinus rafinesquii 105 · 56 · 11 · 38
 caught as 1951. Nipple medium. Fetus in rt. horn 9 mm C.R.

Aetna mines, 9000 ft., Napa Co., Calif.

April 27

1963 ♂ Corynorhinus rafinesquii
 Torpid in upper tunnel. Alore. Epidid not visible in
 tail membrane. Testis 4.5 mm, epidid. 3 mm (this is a very
 small epidid. Accessories tiny, 3 mm. white cheese from nose glands.

1964

Knoxville, 1262 ft., Napa Co., Calif.

April 27

1965 ♂ Corynorhinus rafinesquii
 Epidid large. Awake when captured. Testis 6 mm, alabing.
 Epi. did 4 mm. Accessories small - 4 mm. Noticeable larger than 1963.
 No cheese in nose gland. In sections - no sperm infolded. Testis
 inactive, 2 mitoses seen. Poor slides thin at thick

1966 ♀ Corynorhinus rafinesquii
 Awake when captured. Nipple small-medium. No yet. Pregnant-
 bump in right horn 9 mm wide (ant-post.). Embryo 8 mm C.R.
 No corpus seen under dissecting scope.

1950

34

Manhattan Mine, 2000 ft., 2 mi NW Knoxville, Napa Co., Calif.

April 27

in O.P. tunnel

1967 ♂ Corynorhinus rafinesquai
torpid when caught. Conspicuous epidid. Testis 6 mm, flabby.
Epidid. 5 mm. Accessories small - 4 mm. In sections: many sperm in epidid.,
testis inactive, 2 gonad divisions seen. *Thinner than*

1968 ♂ Corynorhinus rafinesquai
torpid when caught. Conspicuous epidid. Banded 49-123335
Testis 5.5 mm, flabby. Epidid. - 5.5 mm. Accessories small - 4 mm
In sections: abundant sperm in epidid. Several gonad dividing in testis. Good for photo
of epidid with + without sperm *Thinner than*

in Catacombs tunnel

1969 ♂ Corynorhinus rafinesquai
Awake when caught, one other male present. No epidid.
visible in tail membrane. Testis whiter + firmer than in
adults - 4.5 mm. Epidid. tiny - 2.5 mm. Accessories tiny - 2.5 mm
In sections: no sperm in epidid. many mitoses in testis. Thinner than 1968. Good for photo
to compare with 1968 *Thinner than*

1970 ♂ Corynorhinus rafinesquai
Torpid when caught, one other male present. 49-123439
Epidid. conspicuous in tail. Testis 6 mm, flabby. Epidid 4 mm.
Accessories bigger than 1969 - 3.5 mm. In sections: epidid large but no sperm.
Testis inactive but some mitoses. many mitoses but for *Thinner than*

Aetna Springs, 800 ft., Napa Co., Calif.

April 27

1971 ♂ Corynorhinus rafinesquai
grey pelage, small size, hanging with many pregnant females.
Epidid not visible in tail membrane. Awake when caught.
Testis white, firm - 4.5. Epidid 2 mm. Accessories tiny - 3 mm.
Nose of and with white cheese.

1972 ♀ Corynorhinus rafinesquai
Nippled. 49-123061. In kitchen attic. Awake. Pregnant
right horn ... bump 10 x 12. Testis 10 mm CR. No corpus seen under
dissecting scope.

1973 ♀ Corynorhinus rafinesquai
caught as 1972. Nipple med. C-161758. Pregnant rt. horn -
bump 13 x 11. Testis 11 mm CR.

1974 ♀ Corynorhinus rafinesquai
Caught as 1972. Nipple med. C-161766. Pregnant rt horn - bump 12 x 10. Testis
9 mm CR.

1975 ♀ Corynorhinus rafinesquai
Caught as 1972. Nipple small. 49-123028. Pregnant rt horn.
Bump 11 x 9 mm. Testis 9 mm CR.

1976 ♂ Myotis yumanensis
hanging in kitchen attic with above corp.

83.33.9.13

Manhattan Mine, 2000 ft., 2 mi NW Knoxville, Napa Co., Calif.

April 27, 1950

in Alys Tunnel

- 1977 ♀ Corynorhinus rafinesquii 104.52.11.37
caught as 1951. Nipple medium. Swelling in rt. horn 11x12;
fetals 10 mm CR
- 1978 ♀ Corynorhinus rafinesquii 103.50.11.36
caught as 1951. Nipple medium. Tetus in rt. horn. Swelling 12x10,
CR 11 mm.
- 1979 ♀ Corynorhinus rafinesquii 101.48.11.38
caught as 1951. Nipple small. Banded 49-123415. Bump in rt.
horn 5x7; fetus not found.

Golden's Barn,
1.3 mi. SE. of Inverness, Marin Co., Calif

May 4, 1950

- 1980 ♀ Corynorhinus rafinesquii
caught in P.M. with 75 females in attic. Nipple small - med.
Not preg. Right horn slightly larger than left but not swollen.
Banded - 49-123159 (Age ~~more than~~ one year or more)
- 1981 ♀ Corynorhinus rafinesquii
as 1980. Banded. 49-123073. Small m. Resorbing.
Bump measures 5x4, flaccid. Age one year
- 1982 ♀ Corynorhinus rafinesquii
as 1980. Banded. 46-26667. Small m. Not preg. Right
horn wider than left - 2 mm; but quite flat. Certainly
not preg. Age more than 3 years.
- 1983 ♀ Corynorhinus rafinesquii
as 1980. Banded 46-26787 - large m, no milk expressible. Preg
in right horn. Bump measures 20 mm long. Tetus ♂, 17 mm CR,
forearm 9.5 mm. Age more than 3 years.

1 mi NE Golfer Bank Mine, 10 mi SE Lucerne, Lake Co., Calif

May 8, 1950

- 1984 ♂ Corynorhinus rafinesquii 102x48x10x37
caught in clubhouse in afternoon. Epidid fairly large & conspic. in tail sheath
but not bulging. Testis 6.5x5.5. Testis 3 1/2 x 5 1/2, not very flabby,
epidid small, 3 mm. Possibly a few misshapen sperm in epidid. smear, but none
active. Accessories small, 3 1/2 mm, not minimum size.
- 1985 ♀ Corynorhinus rafinesquii 105.54.12.38
Caught as above. Nipple medium. Early preg. in rt. horn, 3 mm ant-post.

D. P. PEARSON

1950

Lucerne Lake Co Calif

May 8

- 1986 ♂ Corynorhinus rafinesquii 101. 49. 9. 36
 Large epidid. Testis $5\frac{1}{2}$ mm, not flabby. Epidid 4 mm, fatter than epi. of 1984.
 abundant motile sperm in epidid smear. Accessories 3 mm, about like 1984. Testis not purple. ~~Bo~~

- 1987 ♂ Corynorhinus rafinesquii 109 x 55 x 11 x 36
 Large epi. Testis 6 mm, slightly flabby but not purple. Epidid. 3 mm, slightly plump. Some sperm in epid smear motile. Accessories 3 mm.
 Banded 46-26897 - adult ~~Wm 29~~

 $2\frac{1}{4}$ mi. SSE Wilbur Spring (Lake Co.), Colusa Co., Calif

- 1988 ♂ Corynorhinus rafinesquii
 dark and corpulent under house. Epidid. large intail members. Testis 6 mm, rather flabby, epidid. 6 mm. Bilhous of motile sperm in ~~epidid smear~~ ^{epidid smear}.
 accessories 4 mm.

Sulfur Bank Mine, Lake Co., Co.

- 1989 ♂ Corynorhinus rafinesquii 104 x 50 x 12 x 35
 active and alone in attic. Testis 6 mm., epidid 4 mm (much smaller than 1988)
 No sperm seen in epidid smear. Accessories 3 mm. Testis not purple or particularly flabby.

Bolinas Copper Mine,Marin Co, Calif

- 1990 ♀ Corynorhinus rafinesquii
 Brought in by David Watson. Caught May 7, died May 11, muffed in lab. capsule.
 Muffle medium. Rt. horn of uterine stout (2 mm ant. - post.) but not thick. Doesn't look pregnant nor recently aborted, no milk.

Pope Creek, 4 mi NNE Pope Valley, Yuba Co., Calif.May 14

- 1991 ♂ Dipodomys heermanni californicus 289 x 177 x 42 x 15
 no emb.
 1992 ♀ Dipo 285 x 177 x 41 x 17
 1 fetus 12 mm c.r.
 1993 ♀ Neotoma californicus californicus 82 x 34 x 7 x 14
 shot by D. Mosman. no emb.
 1994 ♀ Eutamias sonomae sonomae 262 x 119 x 36 x 23

Knobville, Yuba Co., Calif.

- 1995 ♀ Corynorhinus rafinesquii
 caught by David Watson in tunnel by road. Brought in dead. caught May 20.
 Banded 49-123349 Muffle small-medium. Rt. horn quite broad (3 mm) and flat, somewhat flabby. Probably post-partem or post-reabsorptive. Probably better since she isn't lactating, has little mammary tissue

Journal

Sept. 10 Left 3 p.m. for Inverness with Ant et al. Stopped at Mrs. Golden's. He said the owners were camping in the barn, would be there until Sept. 20, and that we had better not disturb them. Went to Lewis's barn in Inverness instead. About ⁴⁰30 Corn were ~~collected~~ gathered at one end, but not in one tight clump. They were awake (5 p.m.) so we had to capture them a few at a time as they landed and relanded on the ceiling. Saw 2 fly out but think not more than 6 escaped. Also 1 on thysanodes in the peak of the roof along the ridge pole. Banded the

1949

Sept. 11 unmarked ones and released (1.5 mi. SE Inverness)
all except 4 banded adult ♀♀ + 2 banded young ♀♀.
Only 1 ♂ was present.

at 7-9 a.m. went through the sending station and dormitory of RCA buildings at Marconi on east side of Tomales Bay. all abandoned since about 1931. Found one ♂ Cory in basement of dorm. also 1 ♂ Cory under Maryjasa Pavilion in Logunitas, but nothing in the buildings in marsh near Black Point.

1949

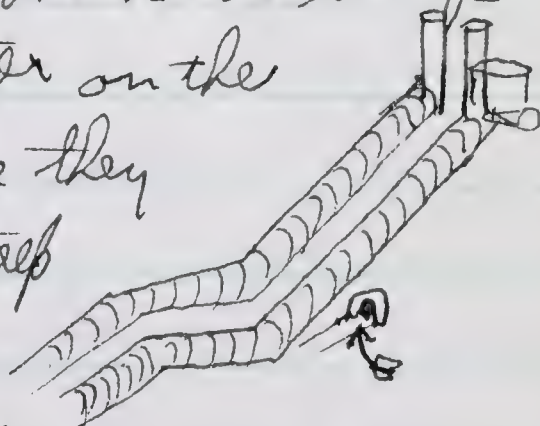
19

Lubway Caves,
Oct. 5

Oct. 4

Left Berkeley with Anita 7:30 p.m. last night. ~~Left~~ Left south of Corning, arrived Lubway caves about 10:30 a.m. Saw no comies or bay piles (but some droppings) at the bee place south of Old Station. No snow on Lassen. Found 2 *Eptesaurus* in cracks in S branch of Lubway, but nothing else in Lubway, Parrish, or the two Ice Caves. The temp in Parrish Cave where bats were clustered last winter was 7°C (at noon). Saw a chipmunk in Lubway 75 yds from entrance, and many chipmunks around mouths of all caves.

Looked in several houses north of Lubway but no bats, then Chalk Tunnels along Pt River. Here we found a σ and f Coy in one tunnel - the f typed and the σ awake. The f had sperm in vaginal smear, but only a little fat. Then went with Danny Shippler to look for alleged cave across river from Lower Plant. Didn't find it but he told us of another one that we located later on the river side of the water pipes where they level off after coming down the steep hill. This is a short, timbered tunnel with no bats but one large porcupine. Nearest trees were a few dogies + yellow pines (widely scattered) and some broad-leaved trees along the river a quarter mile away.



1949

Then drove to Cassel for the night. Found at 7:30 p.m. about 6 Myotis lucif. in Creamery (2 banded) and 2 Cory in the house. Both corys were fat unbanded females, no sperm in smears.

Why torpid at 7:30 p.m.? One more Myotis in Creamery at 9:30, and one more at 5 a.m. Unfortunately, all except 2 escaped from cage overnight.
 Oct. 5. One more Myotis at 8 a.m. behind curtain on front door of house. The banded one that didn't escape was ♂ 49-123249. Banded also ♀ 123168 and ♂ 123169. The latter was attempting to copulate with the former on the floor of the cage, penis slightly smaller and quite red.

Stopped at Dubuque Cave again at 10:30 a.m. and found a single tiny - supple fat female torpid in north branch. She had mated. Also another ptesicus in south branch. Home 6:45 p.m. via Viola + Manton. Road shorter but rough.

Oct. 19 Drove Model A to Knopville, Wapa Co. Visited Knopville tunnel, 2 Red Mine tunnels, and especially the Manhattan Mine above Knopville. Found many Corynorhinus (see Catalog), no other bats. Dead mink and coyote hanging on fence at divide between Monticello + Wapa. Good crop of acorns on (and falling from) live oaks.

1949

Nov. 15 Left 3:15 p.m. with Anita et al. for Valljo marshes. Set Shermans until dark along left side of road in and ~~out~~ along edge of Salicornia 2-3 miles NW of Valljo. Purpose to catch shrews for salivary glands. I set 90 baited with walnuts (40 in grass + weeds, 50 in Salicornia and along Baccharis edge of it) and Anita 40 baited with pecans. Night cold, mostly clear. Heavy dew. By 9 p.m. Anita had 2 Sorex sinuatus, 2 Reithro, and 1 Microtus and I had 6 S. sinuatus + ^{a couple} of Mus.

Nov. 16 Between us 7 more sinuatus & about 7 Mus. 2 of the 15 sinuatus escaped overnight from makeshift cages. All the live ones still alive 6 p.m. Dew had frozen on one or more traps. All except 2 of the sinuatus came from the Salicornia or its edges. Other two from grassy-weedy line. Best sets seemed to be not pure flat Salicornia but elevated portions such as along the Baccharis edge or around a stump or log lying out in the marsh. Not much sign of Microtus.

Nov. 24 Left 1:30 p.m. with Anita et al. for Grizzly Island. Put 50 Shermans baited with walnuts in low grass-weed (smothered?) and Anita put 30. Then I put 34 Museum Specials + 25 Shermans baited with walnuts along a dike on the edge of tules. Anita put 20 Museum Specials here. Started catching house

1949

rice soon after dark. One hour after dark had 6 Mus and 1 Rattus (half-grown). Night clear + very calm. Heavy dew. Saw no Sabornia marsh. Many ducks. Island seems to consist of a dike + road around the edge of the island and cultivated fields ~~on~~ ~~the edge~~ in the center.

Nov. 25 The 50 shermans in marshy grass-wood caught 4 Sorex sinuatus, 5 Mus, 2 Perthra, 1 Microtus. Ant's 30 here had 4 Mus and 2 Perthra. Along the tules I had set alternate traps (34) and Shermans (25). Score was: traps - 11 Mus and 1 Perthra; Shermans - 3 Mus. Ant's had 2 more Mus.

Manhattan Mines, Napa Co., Calif

Dec. 19

Left 2 p.m. with Ant's, arrived Manhattan Mines about 4:30.

Went first to the tunnel
Ant's, Todd, + Mary
had waited before. [Take left
fork at Knopville, drive up hill
to top where road bends left
and large mine dump visible
in to right of road. Go thru
gate and take sharp left on
dirt road. Watch for tunnel to right
of road under digger pines (no bats), then

To Clear Lake

Big dump.

Knopville

1949

a hundred yards or so further a large dump heap rises along right side of road. Climb this to find extensive tunnel system] In this tunnel we counted 24 Cory and 1 *Eptesicus*, all torpid. Did not disturb them. Then drove a few hundred yards further up road and entered another tunnel to left of road (2 Cory), then followed up to right, parked, and walked over crest to my tunnel north of the main rock dump. Found 39 bats in this one - all Cory, all torpid. Then ate supper back at car and returned to my tunnel to sleep (7 p.m.) in view of cluster of Cory.

This was the largest cluster (5) seen - most all the rest were singles. One by one ~~the~~ 4 of these 5 flew, as well as 2 others visible from our sleeping bag. Quite a few bats flying early in the evening, not many later. Can't say how much of this activity was due to our disturbance. They seemed reluctant fly over our sleeping bag when we had a faint green light on (flashlight covered by 6 layers of green cellophane). Some made quite a fluttering sound while flying, others completely silent - perhaps depending on how fully awake they were.

Dec. 20 One female of original cluster of 5 Cory remained in same place. Another cluster of 4 had formed elsewhere in tunnel, and one pair [a ♂ on back of a ♀, both torpid, female with large drop of pearly fluid expressible from vagina]. Collected all bats

1949

between 6 + 7 a.m. and banded almost all. a total of 56 banded, 1 out of reach, and 6 kept = 63.

♂♂:

epidid. large	III III III III II	22
epidid. med.	I	1
epidid small.	III II	7

♀♀:

nipple long or medium	III III IIII	14	Partly blind
small	III I	6	1
tiny	III III I	11	1

Hence ^{7 or 8} ~~7 or 8~~ young ♂♂, 11 or more young ♀♀, 2 recent matings one of them definitely a tiny nipple ♀.

In the "Catacombs" In the Todd-Mary tunnel found 34 Cory in the AM. 4 of these were banded from last time. Banded and released the other 30. [also banded 56 in my tunnel]

♂♂:

epidid. large	III III	8
epidid med.	II	2
epidid small		

♀♀:

nipple large or medium	III III	10	Partly blind
small	III I	6	1
tiny	III III	8	1

1949

Hence 2 or less young ♂♂, 8 or more young ♀♀, 4 recent matings one of them a big nipple ♀.

Total of all tunnels:

♂♂

epidid large 32

medium 3

small 8
+3

♀♀ nipple large or medium 25

small 12

tiny 19

56

Weights of ~~present~~^{best} specimens

♂♂ epidid large 8.1, 7.7, 8.4, 7.4,

epidid small 9.5, 10.0, 10.2, 8.8

♀♀ nipple small-med. 10.0, 9.3

The heaviness of young males seemed due to more fat than an old male. One old male had no fat at all. How would he survive the winter?

Temperature in my tunnel (with most bats) varied during the night between 44 and 47°F. The temperature outside was as low as 26°. ~~Also~~^{also} ~~colder~~ was the Mary-Todd tunnel which also had lots of bats. Both these tunnels were cold + drafty. Shorter, ~~at~~ blind tunnels were warmer and had few bats. The one at Knopville where I left a half dozen females on my last visit and

1949-1950

had no bats this time as when Mary, Tod + Anita visited it. It's temperature at 12 a.m. was 13°C .

Noticed that the adult males tend to hold the tail (when torpid) more tightly curled around under the body than do the females and young males. Not always, but most of the time.

In each of the two good tunnels there were about ~~nine~~ more bats found in the morning than were counted the previous evening. It is not unlikely that some of these arrived from elsewhere during the night. In other words, bats may still be arriving at these wintering tunnels. But where are 26 of the 30 that Todd, Mary + Anita banded a few weeks ago.

at the divide between Monticello and Napa there are now hanging on the fence five coyotes and 2 bobcats.

Fremont Peak, Monterey Co.

Jan. 19

Jan. 19. Drove to top of Fremont Peak with Anita, Mrs. Kelley, et al.

Looked into various natural caves and tunnels at noon.

Found torpid ♂ + ♀ Coy in small natural cave at very top of peak. Both torpid, the female with tiny drops of blood? on tips of hairs. In large mist tunnel on south-west slope near crest we found a torpid ♂ un. volans a torpid ♀ un. thysanodes, and a torpid ♀ Coy, all hanging in open from ceiling. One more ♀ Coy in a tunnel on north slope, also with blood? on fur.

O. P. PEARSON

Sulphur Cave, _____, Shasta Co., Calif.

Feb. 11

Left 7:30 p.m. for Lassen with Anita (last night). arrived Sulphur Cave 11 a.m. Clear day, 6" snow on ground. Physical conditions in the Cave was different than last year. In north branch only a few stalagmite icicles at entrance and considerable water dripping from ceiling in most places except in the long arm beyond the cave-in. The chamber where we slept last year was too wet for sleeping this year. Temp. in the bat chamber of north branch was 4.6°C . No bats present.

In south branch of Sulphur there were many long icicles from ceiling (none last year), some more than 6 ft long and one reaching ground from 14-foot ceiling. There were about a dozen single Cory on ceiling at drafty cross-tunnel where the ceiling temperature was 1.0°C . Body temp. of one of these Cory was 1.2°C . In the bat-chamber the temp. was 3.5° and many Cory were present in 1 big cluster or as pairs or singles. The cluster contained 17 bats: 1 Cory , 14 Cory , and 2 *Myotis* (probably 2 *subulatus* and 1 *californicus* and 1 *subulatus*). This is the first time I have heard of any other species in contact with Cory. All, or almost all in cluster had ears straight, singletons had theirs curled up, or occasionally 1 up and 1 down. Head bared and banded. Kept none except the 2 *Myotis* in the cluster (631, 632 AKP) and 3 other *subulatus* hanging singly. ~~26~~ 26 Cory returns, 3 female returns. Banded 3 new small epidermal Cory and 2 big epidermal Cory , also banded

1950

3 new ♀♀: 1 tiny nipple.

Went to Parrish Cone at 1 p.m. Cone conditions same as last year and bats at about same place, some clustered and some not. Ears, again, straight on clustered ones. Temp. at place of greatest bat concentration 2°C. I pressed on bladder of all females banded. Semen squeezed out of ~~several~~ ^{three} of the Lurhway females, but only ~~three~~ ^{three} of the Parrish females. Banding returns: 21 ♀♀

1 ♀ banded last year in Lurhway
41 ♂

New ones banded: 25 ♀♀ (15 tiny, 1 small, 6 large, 5 med. nipple)
25 ♂♂ (10 tiny or small epidid, 1 med., 14 big)

New ones kept ~~3~~ ³ ♂♂

also kept 2 banded ♀♀ and ~~3~~ ⁴ banded ♂♂

many bats flying when we left Parrish Cone

also looked in both Ice Caves. One ♀ unbanded Cory in the smaller. Saved her.

Looked in the old Creamery etc. at Cassel but no bats. Home 12:30 a.m.

Berkeley

Feb. 19

Last into at 4 p.m. put 22 Benson traps baited with oatmeal in the meadow north of Orinda. Also looked at the abandoned orchard on Bear Creek Road but saw no sign of Microtus (saw no sign either at Orinda) Also put 23 Bensons in heavy grass in Tilden Park across road from Camp Padre. Also put 3 ♀ Shermans here also. Total catch at 9 a.m. was 2 Bentons

75

$\frac{25}{55}$

$\frac{44}{44}$

(21)

1950

at Orinda, 2 Reithro, 1 Sorex, and 1 Pero manic.
at Tilden. No microtus despite fact that we were
trapping for them.

Left 11:30 for Marin Co to look for Microtus &
Put 33 Bessons in grass + Salicornia on edge of Bay
on China Camp road, ^{3 1/2 mi.} ~~3 1/2~~ mi NE San Rafael and
88 in grass and Salicornia ± 7 mi NE San Rafael.
Set them at 2 p.m. for Microtus - lots of runway,
droppings and cut plant material.

at 9 p.m. had following: 8 Microtus,
9 Sorex, 2 Pero manic, 7 Reithro, 1 Mus. 8 Sorex
alive but think one escaped in transferring. Several
Microtus escaped live traps. Night clear, windy.

Feb 20 Wind died down during night. Ice on some traps.
Ran traps at 7 a.m.: 11 Microtus, 10 Sorex, 1 Mus, 1 Pero,
9 Reithro. again many escapes from the Shermans with
short doors. Total score; 120 traps: 19 Microtus, 19
Sorex, 3 Pero, 16 Reithro, 2 Mus. = 59.

Forgot to mention under Feb. 19 our visit to Golden's
barn at Limeress, 4 Eptesicus? under board on
stair landing and 3 Cory, not together. 1 torpid
in attic, 1 awake in attic, and 1 torpid down same
side chute as another ♀ last year. I kept all 3
of these and released the ♀ that we captured early
last September¹⁰ and kept in Zoology cold room
all winter. Banded her 49-123505.

1950

3 1/2 mi NE San Rafael, Marin Co.

Feb. 25 Left 3 p.m. with Mosman & Munkler for Marin Co. Put 135 Benson & Sherman traps baited with oatmeal around same Salicornia marsh as last week. Lots of good signs. 1 Bufo, 2 Batrachoseps, and 1 ♂ Sceloporus under boards & logs within a few yards of Salicornia. Finished setting about 5:30 p.m.

Ran traps at 9 p.m. and picked up 3 Microtus, 2 Reithro, and 1 Pero. Looked in old house for bats but too dilapidated; none there. Night clear, calm, not cold, fog rising from marsh at 9 p.m. Lots of frogs singing.

Feb. 26 Picked up at 6:30 a.m. Had 5 Sorex, 11 Reithro, 3 Pero, and 5? Microtus. Here total for night = 13 Reithro, 8 Microtus, 4 Pero, and 5 Sorex.

March 4 Left 3 p.m. with Green and Isaac for Marin Co. Looked at several of the Salicornia marshes near our last week's station but none seemed to have as many signs as the original site. Put traps at 1 new place and then re-covered 3 places where we had trapped before. Saw practically no really fresh droppings or cuttings. While setting saw 2 Toads, 1 Bufo, 2 Sceloporus, 11 spiny-tailed snake, and a pair of lizards. Heard great horned owl and many frogs at dusk. Salicornia twigs very dry with practically no fleshy parts.



March 5

Total catch 19 *Microtus*, 1 *Mus*, 3 *Peromyscus*,
8 *Sorex*, 22 *Reithro*

Larkspur, Marin Co., Calif

March 11

Left 2:30 p.m. for Marin Co. to visit Anita and traps
Microtus (Anita returning from bat trip to Limerick with
Mary, Todd, et al. Ludi's barn being torn down). Set about
80 traps in the original San Quentin marsh (Sherman
+ Benson baited with oatmeal) and about 60 in 2 marshes
near the new Catholic School near Larkspur. All in or
at edge of *Salicornia*. Night clear and cold.

March 12

Heavy frost. Total catch 1 *Sorex* (Kidd caught 14 between
3 and 9 p.m. last night NE of Vallejo), 12 *Microtus*, 3 $\pm$ *Mus*,
1 *Peromyscus*, 8 $\pm$ *Reithro*.

Berkeley, Calif

March 16

at lunch time went to Tilden Park to look for
Triturus where Anita et al. had seen them yesterday.
Just north of playing fields + tennis courts found about
3 dozen in 25 yds of stream; all in pools about 8 to
16 inches deep. Only 2 females. ~~and~~ also a few young
ones in the stream, about 80 $\pm$ mm. long. 2 frogs.
Many *Triturus* egg masses on roots.

S. of Petaluma, Marin Co.

March 19

Left 2:30 p.m. with Brents. Showers. Set ca.
160 Benson, Sherman, and tin-can traps baited with
oatmeal. Finished setting at dark. Many good *Microtus*
runways. At 9:30 p.m., however, only 2 *Reithro*, 2 *Sorex*.
No *Microtus*. Evening calm, overcast, not cold.

March 20

Rain for the last half of night and still drizzling

1950

in morning. Total catch 9 *Microtus*, 10 *Sorex*, 4 *Rethro*, and 1 *Mus*. Heard great-horned owl; saw many ♂ red-wings apparently with territories. ^{Heard} Wood rat in house where we slept (on porch). at 10 p.m. found a *Sceloporus* between boards in a pile of lumber. Although outside temperature was not cold he seemed torpid.

Brant put some nest boxes around the good *Microtus* marsh NE of San Rafael. I lifted a piece of braft paper in the marsh and found a *Sorex* and nest of straw and coarse stems - much coarser than mouse nest. The *Sorex* escaped.

The *Salicornia* is becoming more succulent, but still rather dead-looking.

April 1

Left 3 p.m. with Louis Focke for *Microtus* in Marin Co. Set about 130 *Thomomys* in the San Quentin Marsh and 70 in the first marsh east of Marin Co. Airport (NE of San Rafael). at 10 p.m. had 6 *Microtus* and a few *Rethro*. Saw 1 bat in brick kiln (looked like *M. yunnanensis*) and caught a couple of *Hyla*. Jack-lighted for brush rabbits but saw none.

April 2

Total trap score 12 *Microtus* (not counting 2 that escaped when bucket upset), 7 *Rethro*, 1 *Mus*, 1 *Sorex*. Looked at Brant's nestboxes $3\frac{1}{2}$ mi. NE San Rafael: 1 *Sceloporus* in 1, water in 4, nothing in others.

1950

April 27

Left 8 a.m. with R. Bently + Mr. Koford for Mappa Co. Corynorhinus.
 Aetna Spring attic had a colony of ♀♀, all banded, and one
 young ♂. also a single Myotis yumanensis hanging in
 open from ceiling near the window. at Aetna Mines found
 1 ♂ Cory in upper tunnel but nothing in others. One rattlesnake
 snake at entrance to one of the 2 lower tunnels. Then drove to
 Knopville (one ♂ and ♀ in tunnel by road) and Manhattan Mines.
 Two ♂♂ in OP tunnel and 2 in Catacombs. In the
 big open pit in a chamber across the chasms that must
 be jumped we found a large colony of ♀♀. Many (several
 dozen) flew when we first entered this chamber. After
 swinging wildly with nets for perhaps $\frac{1}{2}$ minute we decided
 to let the bats settle down. Some had escaped but
 most quieted; whereupon we stretched nets across the
 entrance and caught all except a few of the remainder. Most
 of these were in a narrow chimney only about $1\frac{1}{2}$ ft.
 in diameter and several feet tall. - a very confined
 space for Corynorhinus. Less than half were
 banded ones, and many that we had banded nearly during
 the winter were not present (hadn't arrived yet or
 other colony somewhere). All told there were 140 ♀♀ present;
 Banded and released all except about ¹⁵12. Most of these
 and the Aetna Springs ones were pregnant. The ♂♂
 were easily divisible into big + small spid., the
 accessories small in both cases but smallest in the
 small-spid. (young) group. Home 9 p.m.

1950

May 4 Left noon with auto for Petaluma + Guerneville. Put 84 Benson + Sherman live traps baited with oatmeal in Marsh and around pond at the same place (5³ mi. S of Petaluma) where Brant and I trapped March 19 and where Anita, Mary, and Marcetta trapped last winter. Saw no good Ureterus sign. Then went to Guerneville (Golden's farm), arriving about 4. Put up the sets and caught almost all the Cory present (about ~~73~~⁷³, all ♀♀). Not more than 6 escaped. Most quite pregnant. Only 4 were unbanded over. Opened up 6 under ether to measure embryo size and then sewed them up and released them. The others opened up were not preg. or resorbing, so bled them, as well as 1 with broken wing. Embryo sizes:

49-123163-17.9	long	42-138157	11 x 9 mm bump
42-138189-16.5		46-26635	10 mm long "
		42-138191	12.5 mm long "
		49-123161	15 mm long.

Ran traps at 9 p.m.: 2 Mus + 1 Sorex.

May 5 Traps had 4 more Mus and 4 more Sorex. Ureterus or Pertho. Home 10 a.m.

May 13 Left 1:45 p.m. for Pope Creek with ⁽³⁰⁰⁻¹¹³⁾ 113 students. Stopped at abandoned mine near Argwin - no bats, also at the Moorman Winery west of Argwin. Nice big winery with 3 floors (including very dark basement with casks) and numerous droppings. One bat flying in upper story but not captured. Looked like Myotis. 2 Eusattia seen by others among basement casks. Many Sceloporus around lumber pile outside this winery and one Gerrhonotus coerules in bush pile near other Argwin winery. Arrived Pope Creek, 4 mi. NNE Pope Valley, about 6 p.m. Students and I put out total of about 110 snap traps.

Waited for bats over pool at dusk but saw only a

1950

half dozen. Got **2** shots: 1 Myotis californicus. Then went jacklighting by car to Lake Valley & back. Saw about 9 deer. also 1 Dipodomys ran across road in front of car. Shot him. Heard screech owl. Night punctuated by much noise from Chats and bullfrogs.

May 14

In my traps (about 12) were Peromyscus truei + P. boylii (total 5) and 1 Dipos. Total catch of all must have been about 40 animals - mostly P. truei, P. boylii, P. manic, but also 2 Neotoma, 1 Microtus. Abel caught 2 trout, some squawfish, etc. Archie & I shot 3 cliff swallows for Bailey. Home 2 p.m. via Lake Conn.

